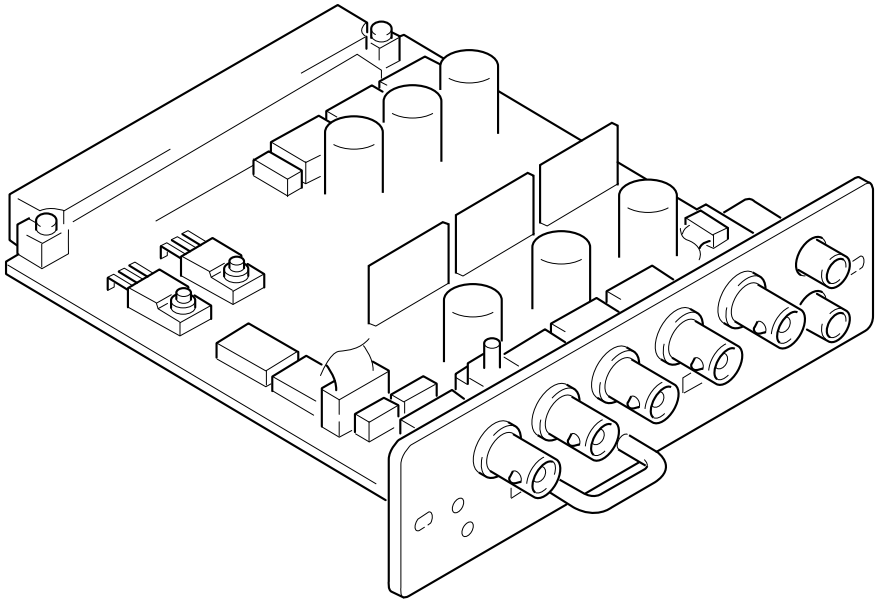
SERVICE MANUAL

MODEL	DEST.
IFB-12	**World** **J: S/N 030,001 to 031,450** **U/C, AEP: S/N 040,001 to 041,750**
IFB-12	**World** **J: S/N 031,451 and later** **U/C, AEP: S/N 041,751 and later**
IFB-12A	**World**



SIGNAL INTERFACE BOARD

SONY

⚠警告

このマニュアルは，サービス専用です。
お客様が，このマニュアルに記載された設置や保守，点検，修理などを行うと感電や火災，人身事故につながることがあります。
危険をさけるため，サービストレーニングを受けた技術者のみご使用下さい。

⚠ WARNING

This manual is intended for qualified service personnel only.
To reduce the risk of electric shock, fire or injuly, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so. Refer all servicing to qualified service personnel.

WARNING!!

AN INSULATED TRANSFORMER SHOULD BE USED DURING ANY SERVICE TO AVOID POSSIBLE SHOCK HAZARD, BECAUSE OF THE LIVE CHASSIS.
THE CHASSIS OF THIS RECEIVER IS DIRECTLY CONNECTED TO THE AC POWER LINE.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY A ⚠ MARK ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

ATTENTION!!

AFIN D'EVITER TOUT RISQUE D'ÉLECTROCUTION PROVENANT D'UN CHÂSSIS SOUS TENSION, UN TRANSFORMATEUR D'ISOLEMENT DOIT ETRE UTILISÉ LORS DE TOUT DÉPANNAGE.
LE CHÂSSIS DE CE RÉCEPTEUR EST DIRECTEMENT RACCORDÉ Á L'ALIMENTATION SECTEUR.

ATTENTION AUX COMPOSANTS RELATIFS ÁLA SÉCURITÉ!!

LES COMPOSANTS IDENTIFIÉS PAR UNE MARQUE ⚠ SUR LES SCHÉMAS DE PRINCIPE, LES VUES EXPLOSÉES ET LES LISTES DE PIECES SONT D'UNE IMPORTANCE CRITIQUE POUR LA SÉCURITÉ DU FONCTIONNEMENT. NE LES REMPLACER QUE PAR DES COMPOSANTS SONY DONT LE NUMÉRO DE PIÉCE EST INDIQUÉ DANS LE PRÉSENT MANUEL OU DANS LES SUPPLÉMENTS PUBLIÉS PAR SONY.

TABLE OF CONTENTS

1. OPERATING INSTRUCTIONS

2. CIRCUIT DESCRIPTION

2-1. GENERAL ..... 2-1(E)
2-2. POWER SUPPLY CIRCUIT ..... 2-1(E)
2-3. INPUT MODE ..... 2-1(E)
2-4. OUTPUT MODE ..... 2-2(E)

3. SEMICONDUCTORS

4. EXPLODED VIEWS

4-1. MAIN UNIT (IFB-12 (OLD)) 4-1
4-2. MAIN UNIT (IFB-12 (NEW), IFB-12A) 4-2

5. ELECTRICAL PARTS LIST

6. BLOCK DIAGRAMS

7. DIAGRAMS

7-1. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS 7-1
SCHEMATIC DIAGRAMS
• IFB-12 (OLD) (1/3) Board 7-5
• IFB-12 (OLD) (2/3) Board 7-6
• IFB-12 (OLD) (3/3) Board 7-7
• IFB-12 (NEW), IFB-12A (1/3) Board 7-11
• IFB-12 (NEW), IFB-12A (2/3) Board 7-12
• IFB-12 (NEW), IFB-12A (3/3) Board 7-13
PRINTED WIRING BOARDS
• IFB-12 Board (OLD) 7-4
• IFB-12 Board (NEW) 7-9
• IFB-12A Board 7-10

IFB-12 (OLD) : (J: S/N 030,001 to 031,450 / U/C, AEP: S/N 040,001 to 041,750)
IFB-12 (NEW) : (J: S/N 031,451 and later / U/C, AEP: S/N 041,751 and later)

SONY

3-858-497-**04** (1)

Signal Interface Board

取扱説明書	**ページ 2**
Operating Instructions	**Page 9**
Mode d'emploi	**Page 15**
Bedienungsanleitung	**Seite 20**
Manual de instrucciones	**Página 26**
Istruzioni per l'uso	**Pagina 31**
使用说明书	**36** 页

N50

CE

IFB-12A

© 1996 by Sony Corporation

SECTION 1
OPERATING INSTRUCTIONS

This section is extracted from operation manual.

English

WARNING

For the customers in the USA

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructios, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.
– Increase the separation between the equipment and receiver.
– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
– Consult the dealer or an experienced radio/TV technician for help.

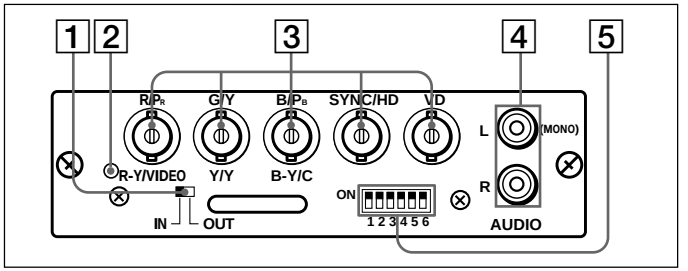
You are cautioned that any changes or modifications not expressly approved in this manual could void your authority to operate this equipment.

For the customers in Canada

This Class B digital apparatus complies with Canadian ICES-003.

The IFB-12A signal interface board is a PC board to be mounted on the projector or the signal interface switcher, etc. so that RGB and audio signals from a computer, etc. can be input or output[1)] to a signal interface switcher.

Location and Function of Parts



1 **IN/OUT (input/output) selector**
By setting the IN/OUT selector, the BNC connectors 3 function as the input/output[1)] connectors.

2 **Indicator (red)**
Lights up when the IFB-12A is selected or the IN/OUT selector is set to OUT.

3 **Input/Output connector (BNC type)**
When the IN/OUT selector is set to IN
Accepts RGB, component, HDTV[2)], S-VIDEO, VIDEO signals.[1)]
When the IN/OUT selector is set to OUT (Refer to the manual of the equipment to be connected also.)
Output RGB, component and HDTV signals.[1)]

4 **AUDIO (L(MONO)/R) connectors (phono jack)**
When the IN/OUT selector is set to IN
Connect to the AUDIO OUT connector on a VTR, etc. When connecting a monaural audio source, connect it to L (MONO).
When the IN/OUT selector is set to OUT
Connect to the AUDIO IN connector of a monitor, etc.[1)]

[1)] Refer to the attached paper about the products on which the IFB-12A can be mounted.

[2)] HDTV: 1125/60 interlaced HDTV Studio Standard.

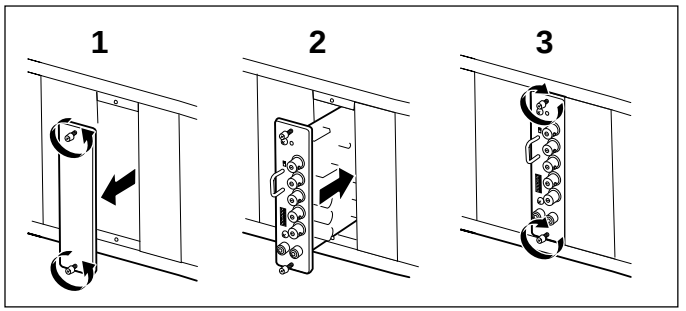
5 **DIP switch**
Set the position of the DIP switch according to the input signal. (Refer to “Setting the DIP switch”.)

Mounting the IFB-12A

Note

Mounting or removal of signal interface boards must be performed by qualified personnel only.

This section is for qualified service personnel only.



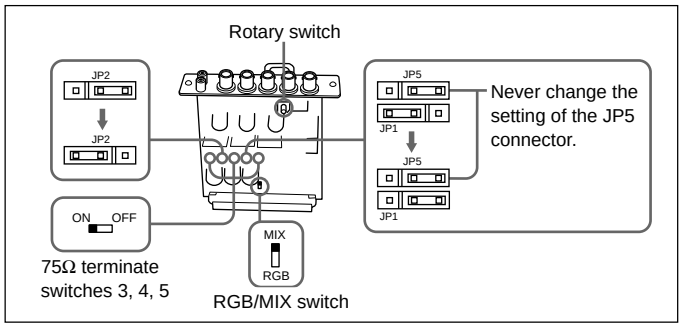
1 Loosen the screws completely and remove the panel.
2 Push in the IFB-12A along the rail.
3 Tighten the screws.

When removing the IFB-12A, loosen the screws completely and pull it out.

Setting the Switches

Note

Be sure not to change the setting of the SW6, 7 and JP-3, 4, 5 connectors, as this may damage the equipment connected to this unit.



Setting the 75Ω terminate switches 3, 4, 5

Set the 75Ω terminate switches 3, 4, 5 to the appropriate position according to how the computer and monitor are connected.
Normally set to the ON side.
Set to the OFF side when the IFB-12A is connected to a monitor and a personal computer simultaneously.

Setting the RGB/MIX switch

Set the RGB/MIX switch to RGB when connecting the switcher to the RGB input connectors on the monitor using the output board.
Set the RGB/MIX switch to MIX when connecting the switcher to the projector.

If the Computer to be Connected Outputs Monochrome Video Signal

Before connecting the computer, make sure that the IN/OUT selector of the IFB-12A is set to IN side.

1 Connect the video output connector of the computer to the G/Y connector of the IFB-12A.
2 Set the position of the JP-1, JP-2 connectors on the PC board.
The picture on the screen is displayed in monochrome.

Note

If step 2 is not performed, the picture on the screen is displayed in green.

Setting the DIP Switch

Set the DIP switch to the appropriate position according to the input signal.[1)]

Input mode can be selected			
	RGB signal input		HDTV GBR signal input
	Component signal input		VIDEO signal input
	HDTV YP_BP_R signal input		S-VIDEO signal input

On Compensation Cable

Turn the rotary switch on the PC board (IFB-12A) to the appropriate position according to the type and length of the BNC cables connecting the MONITOR OUT connectors and a projector or monitor.

RG-59B/U (3C-2V) cable	up to 0.5 m	up to 12 m	up to 25 m	up to 50 m
RG-6A/U (5C-2V) cable	up to 1 m	up to 25 m	up to 50 m	up to 100 m
Position	1	2	3	4

[1)] Refer to the attached paper about the products on which the IFB-12A can be mounted.

Specifications

Input connectors

R/R-Y/P_R/VIDEO connector (BNC type): Red signal input, 0.7 Vp-p ± 2 dB, 75 ohms terminated
Component R-Y signal input, 0.7 Vp-p ± 2 dB, 75 ohms terminated
HDTV P_R signal input, ±0.35 Vp-p ± 2 dB, 75 ohms terminated
HDTV R signal input, composite 1 Vp-p ± 2 dB, 75 ohms terminated
(Tri-level sync ±3 Vp-p, sync negative 0.3 Vp-p)
Non-composite 0.7 Vp-p ± 2 dB, 75 ohms terminated
Composite video signal input, 1 Vp-p, 75 ohms terminated

G/Y / Y/Y connector (BNC type): Green signal input, 0.7 Vp-p ± 2 dB, 75 ohms terminated
Sync-on-green signal input, 1 Vp-p ± 2 dB, 75 ohms terminated
Component Y signal input, 1 Vp-p ± 2 dB, sync negative, 75 ohms terminated
HDTV Y signal input, 1 Vp-p ± 2 dB, 75 ohms terminated
(Tri-level sync ±3 Vp-p, sync negative 0.3 Vp-p)
HDTV G signal input, composite 1 Vp-p ± 2 dB, 75 ohms terminated
(Tri-level sync ±3 Vp-p, sync negative 0.3 Vp-p)
Non-composite 0.7 Vp-p ± 2 dB, 75 ohms terminated
S-VIDEO Y signal input, 1 Vp-p ± 2 dB, 75 ohms terminated

B/B-Y/P_B/C connector (BNC type): Blue signal input, 0.7 Vp-p ± 2 dB, 75 ohms terminated
Component B-Y signal input, 0.7 Vp-p ± 2 dB, 75 ohms terminated
HDTV P_B signal input, ±0.35 Vp-p ± 2 dB, 75 ohms terminated
HDTV B signal input, composite 1 Vp-p ± 2 dB, 75 ohms terminated
(Tri-level sync ±3 Vp-p, sync negative 0.3 Vp-p)
Non-composite 0.7 Vp-p ± 2 dB, 75 ohms terminated
S-VIDEO C signal input, 0.286 Vp-p ± 2 dB, 75 ohms terminated (NTSC), 0.3 Vp-p ± 2 dB, 75 ohms terminated (PAL)

SYNC/HD connector (BNC type): Composite sync signal, horizontal sync input, 0.6 to 8 Vp-p, high impedance, positive/netagive
HDTV tri-level sync signal input, ±0.3 Vp-p, sync negative, 0.3 Vp-p, 75 ohms terminated

VD connector (BNC type): Vertical sync signal input, 0.6 to 8 Vp-p, high impedance, positive/negative
HDTV tri-level sync signal input, ±0.3 Vp-p, sync negative, 0.3 Vp-p, 75 ohms terminated

AUDIO connector (Phono jack): Audio signal input, 500 mVrms, impedance 47 kohms

Design and specifications are subject to change without notice.

SECTION 2
CIRCUIT DESCRIPTIONS

IFB-12 (OLD): (J: S/N 030,001 to 031,450 / U/C, AEP: S/N 040,001 to 041,750)

IFB-12 (NEW): (J: S/N 031,451 and later / U/C, AEP: S/N 041,751 and later)

2-1. GENERAL

This board is a 5-BNC analog input/output board which is able to serve as an input or output board using the IN/OUT switch. The output board is equipped with a feed compensation function for cable, and a compensation rate can be selected with the compensation mode switch according to the length of the coaxial cable.

2-2. POWER SUPPLY CIRCUIT

+12 V to +15 V power is supplied from the 96-pin connector CN3 (A4, B4, and C4) (IFB-12 (OLD)), J1 (A4, B4, and C4) (IFB-12 (NEW), IFB-12A) terminals. The IN/$\overline{\text{OUT}}$ select switch is used to select the power for the input or output circuit.

① When the IN/$\overline{\text{OUT}}$ switch is set to the IN side and CN3 (C19) (IFB-12 (OLD)), J1 (C19) (IFB-12 (NEW), IFB-12A) becomes “LOW”, Q25 is turned OFF, Q28 is turned ON, and relays RY1 to RY5 (IFB-12 (OLD)), RL1 to RL5 (IFB-12 (NEW), IFB-12A) are turned ON by IC25, and the power supply line is connected to the input circuit as well as the LED lights up.

② When the IN/$\overline{\text{OUT}}$ switch is set to the OUT side and RGB/$\overline{\text{VIDEO}}$ terminal CN3 (A17) (IFB-12 (OLD)), J1 (A17) (IFB-12 (NEW), IFB-12A) becomes “MIDDLE” or “HIGH” (+1.7 V to +5.2 V), Q25 is turned OFF, Q28 is turned ON, and relays RY1 to RY5 (IFB-12 (OLD)), RL1 to RL5 (IFB-12 (NEW), IFB-12A) are turned OFF by the comparator IC26 and IC25, the power supply line is connected to the output circuit as well as the LED lights up. When the RGB/$\overline{\text{VIDEO}}$ terminal becomes “LOW” (input is a video signal), the output circuit does not function.

③ R208, Q22, Q23, and Q24 serve as a current detection protector. When excessive current flows (higher than 1.2 A), Q22, Q23, and Q24 are turned ON, and Q28 is turned OFF (power is shut off) as well as protector terminal CN3 (A2) (IFB-12 (OLD)), J1 (A2) (IFB-12 (NEW), IFB-12A) is connected to GND, and failure is indicated to the outside.

2-3. INPUT MODE

When the IN/$\overline{\text{OUT}}$ switch (S2: IFB-12 (OLD)), (SW2: IFB-12 (NEW), IFB-12A) is set to the IN side and SEL (C19) terminal becomes LOW, this mode is set.

① Input mode setting (Table 1)

When the DIP switch is turned ON according to the input signal, RGB/$\overline{\text{VIDEO}}$, VIDEO/$\overline{\text{YC}}$, and CODE1 control signals are passed through transistors Q2 to Q8 and output to CN3 (A17, C17, and B16) (IFB-12 (OLD)), J1 (A17, C17, and B16) (IFB-12 (NEW), IFB-12A) according to the input mode. This informs external devices such as a switcher, etc. of the input signal type.

Table 1

Input mode	DIP SW	RGB/$\overline{\text{VIDEO}}$ (A17)	VIDEO/$\overline{\text{YC}}$ (C17)	CODE1 (B16)	Related transistor
RGB	1	H	H	H	
COMPONENT	2	M	H	H	Q4
HDTV Y Pr Pb	3	H	L	L	Q5, Q6
HDTV GBR	4	H	H	L	Q5
C VIDEO	5	L	H	H	Q8
S VIDEO	6	L	L	H	Q7, Q8

② Video signal

Video signals input from the BNC terminal are passed through relays RY1, 2, and 3 (IFB-12 (OLD)), RL1, 2, and 3 (IFB-12 (NEW), IFB-12A) and are input to +6 dB amplifier ICs 19, 20, and 21. This input signals are usually terminated with the 75 Ω terminator switches S3, 4, and 5 (IFB-12 (OLD)), SW3, 4, and 5 (IFB-12 (NEW), IFB-12A). When JP 1 and 2 connectors are set to the G-R and G-B sides, only G signal is generated, and a black-and-white image is output.

RGB signals input from ICs 19, 20, and 21 are passed through RY7, 8, and 9 (IFB-12 (OLD)), RL7, 8, and 9 (IFB-12 (NEW), IFB-12A) and are output to CN3 (21, 25, and 29) (IFB-12 (OLD)), J1 (21, 25, and 29) (IFB-12 (NEW), IFB-12A) terminals.

③ SYNC signal

A 75 Ω or 1 K Ω termination resistance can be selected for SYNC/HD and VD signals input from the BNC terminal using terminator switches S6 and 7 (IFB-12 (OLD)), SW6 and 7 (IFB-12 (NEW), IFB-12A).

Q10, Q11, and IC (1/2), and Q14, Q15, and IC (2/2), and Q12, 27 (IFB-12 (NEW), IFB-12A) serve as a peak detection circuit for SYNC/HD and VD signals. These signals are compared with the intermediate value of the peak value, are converted to TTL level SYNC signals by IC3 and output to CN3 (12, 14) (IFB-12 (OLD)), J1 (12, 14) (IFB-12 (NEW), IFB-12A). Also with IFB-12 (NEW), IFB-12A, when input signal is recognized as TTL level, SYNC/HD, VD, which is input from BNC terminal, is input to relay RL6 as it is, then it is output to J1 (12, 14) by control of this relay. When the SYNC signals are used to process signals synthesized with video signals, JP3 and 4 are set to the VIDEO side.

By switching JP5 to GS side, SYNC signals CS and VS are input from IC2 for input signals such as SYNC ON GREEN, Y signal, etc.

④ Audio signal

AUDIO L and R signals input from the pin jack terminal are input to the buffers Q16 and Q17, and are output to CN3 (A7, A8) (IFB-12 (OLD)), J1 (A7, A8) (IFB-12 (NEW), IFB-12A) by the analog IC4 switch.

2-4. OUTPUT MODE

When the IN/$\overline{\text{OUT}}$ switch (S2: IFB-12 (OLD)), (SW2: IFB-12 (NEW), IFB-12A) is set to the OUT side and RGB/$\overline{\text{VIDEO}}$ signal level of CN3 (A17) (IFB-12 (OLD)), J1 (A17) (IFB-12 (NEW), IFB-12A) becomes MIDDLE or HIGH, this mode is set. IN/$\overline{\text{OUT}}$ terminal of CN3 (B23) (IFB-12 (OLD)), J1 (B23) (IFB-12 (NEW), IFB-12A) becomes LOW and informs the outside of the output mode.

① Video signal

RGB signals input from CN3 (B3, B5, and B7) (IFB-12 (OLD)), J1 (B3, B5, and B7) (IFB-12 (NEW), IFB-12A) are terminated with the 75 Ω termination resistors R50, 90, and 130, and are passed through buffer ICs 7, 8, and 9 to be distributed for four outputs. These signals become four signals in which high-frequency is emphasized by R and C, and cable compensation elements CR1, CR2, and CR3. Analog switch ICs 10, 11, and 12 are used to select one compensation rate required from these four signals according to the mode S8 (IFB-12 (OLD)), SW8 (IFB-12 (NEW), IFB-12A). These signals are amplified by the 7 times output amplifier ICs 13, 14, and 15, are passed through relay RY1, RY2, and RY3 (IFB-12 (OLD)), RL1, RL2, and RL3 (IFB-12 (NEW), IFB-12A), and are output to the BNC terminal. Q18, 19, 20, IC16, and IC17 serve as corresponding feedback clamp circuits, detects black level of output signals, and applies DC bias to the output amplifier.

② SYNC signal

SYNC HS and VS signals input from CN3 (B8 and B10) (IFB-12 (OLD)), J1 (B8 and B10) (IFB-12 (NEW), IFB-12A) are passed through buffer IC5 (IFB-12 (OLD) only) and relay RY4 (IFB-12 (OLD)), RL4 (IFB-12 (NEW), IFB-12A) and are output to the BNC terminal.

③ Audio signal

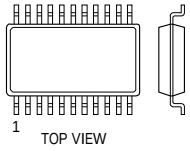
AUDIO L and R signals input from CN3 (B1 and B6) (IFB-12 (OLD), J1 (B1 and B6) (IFB-12 (NEW), IFB-12A) are passed through relays RY6 and RY5 (IFB-12 (OLD)), RL5 (IFB-12 (NEW), IFB-12A), and output to the pin jack terminal.

④ Others

When the NOR/$\overline{\text{MIX}}$ switch S12 (IFB-12 (OLD)), SW12 (IFB-12 (NEW), IFB-12A) on the board is switched to NOR or MIX, “HIGH” or “LOW” voltage is output to CN3 (B31) (IFB-12 (OLD)), J1 (B31) (IFB-12 (NEW), IFB-12A) terminal. The signal type to be output (monitor output or projector output) can be indicated to an external switcher, etc.

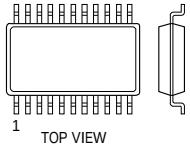
SECTION 3
SEMICONDUCTORS

GS4881-CKA
NJM082BM
NJM2903M
OPA658U
SN75157PS
SN75453BPS



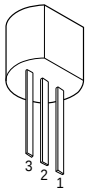
8pin SOP

MPC100A
SN74HC02ANS
TC74HC02AF

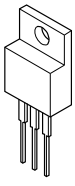


14pin SOP

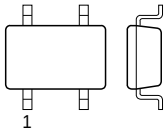
NJM78L05A



TA7810S

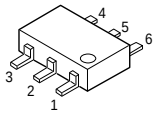


TC4W66F

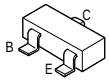


5pin CHIP

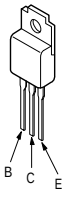
HN1A01F
HN1B01F
HN1C01F



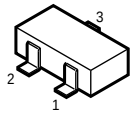
RN1310
RN1423
2SA1162-G
2SA812
2SC1623



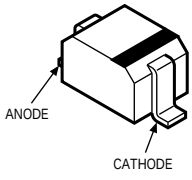
2SA1388



DCC010
1SS226



RD2.7SB



SECTION 4
EXPLODED VIEWS

NOTE:

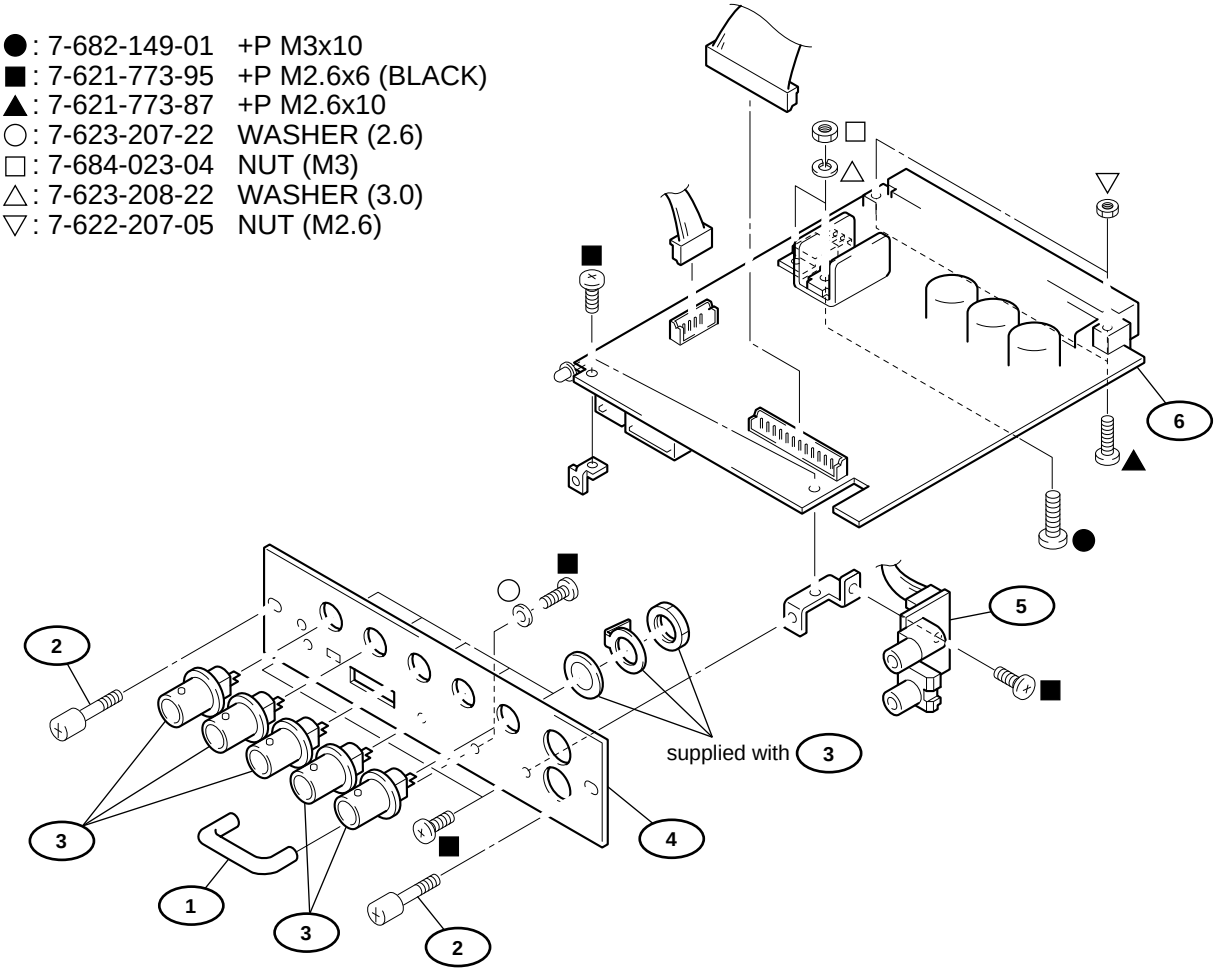
- Items with no part number and no description are not stocked because they are seldom required for routine service.
- The construction parts of an assembled part are indicated with a collation number in the remark column.
- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

IFB-12 (OLD) : (J: S/N030,001 to 031,450 / U/C, AEP: S/N 040,001 to 041,750)
IFB-12 (NEW): (J: S/N031,451 and later / U/C, AEP: S/N 041,751 and later)

【使用上の注意】
- **＊印の部品は常時在庫しておりません。受注して供給できるまで日数を要します。**
- **分解図中の構成部品で，図面番号のない部品は供給しません。**
- **組立部品の構成部品は備考欄に図面番号で示します。**

4-1. MAIN UNIT
(IFB-12 (OLD))

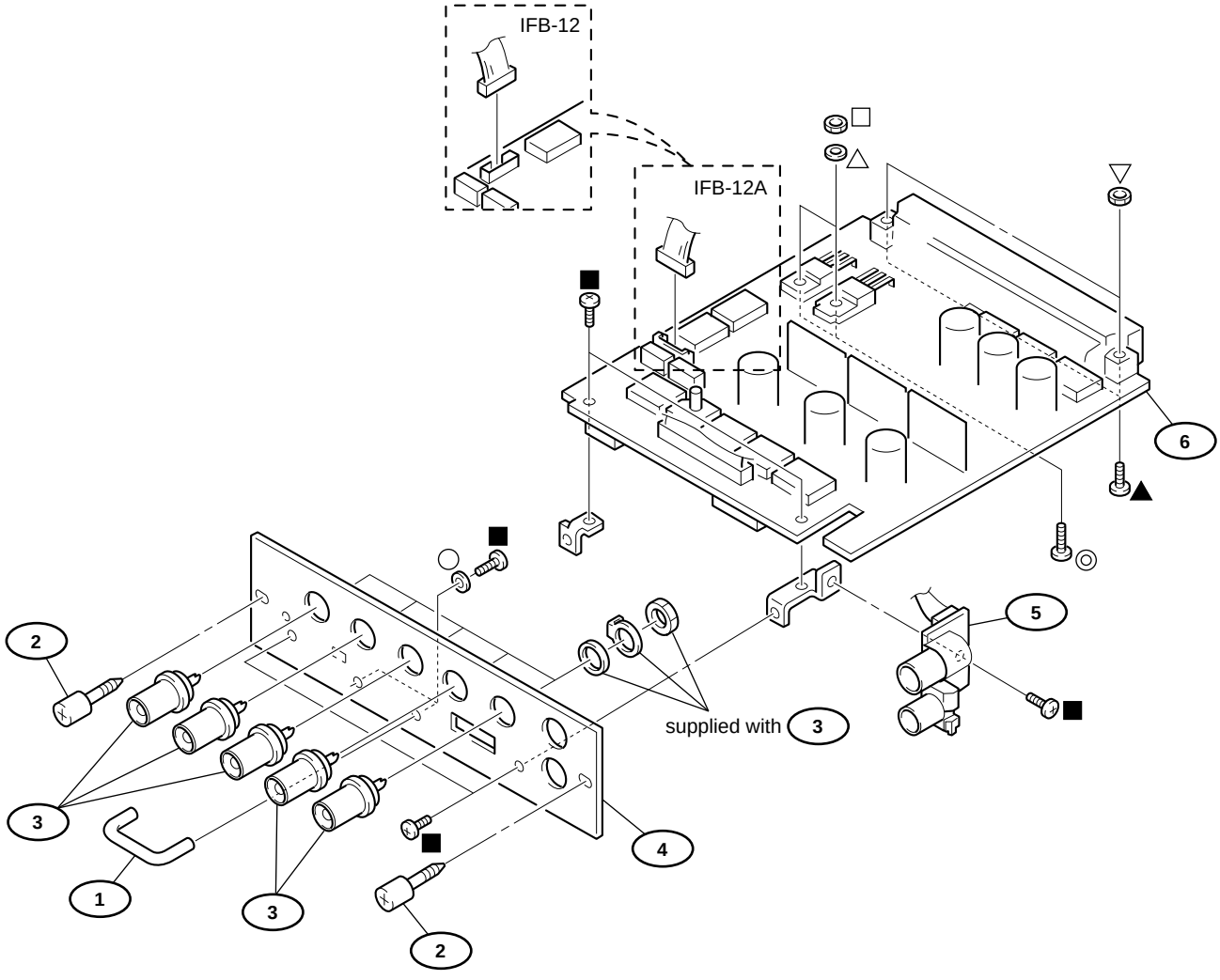
●: 7-682-149-01 +P M3x10
■: 7-621-773-95 +P M2.6x6 (BLACK)
▲: 7-621-773-87 +P M2.6x10
○: 7-623-207-22 WASHER (2.6)
□: 7-684-023-04 NUT (M3)
△: 7-623-208-22 WASHER (3.0)
▽: 7-622-207-05 NUT (M2.6)



Rf.No.	Part No.	Description	Remark
1	4-032-851-01	HANDLE	
2	4-055-636-01	SCREW	
3	9-939-566-01	CONNECTOR, BNC	
4	9-939-575-01	PANEL (IFB-12 BOARD)	
5	* 9-939-836-01	AUDIO SUB BOARD COMPLETE	
6	* 9-939-574-01	IFB-12 BOARD, COMPLETE	

4-2. MAIN UNIT
(IFB-12 (NEW), IFB-12A)

◎: 7-682-149-04 +P M3x10
■: 7-621-773-95 +P M2.6x6 (BLACK)
▲: 7-621-773-87 +P M2.6x10
○: 7-623-207-22 WASHER (2.6)
□: 7-684-023-04 NUT (M3)
△: 7-623-208-22 WASHER (3.0)
▽: 7-622-207-05 NUT (M2.6)



Rf.No.	Part No.	Description	Remark
1	4-032-851-01	HANDLE	
2	4-055-636-01	SCREW	
3	9-939-566-01	CONNECTOR, BNC	
4	9-939-575-01	PANEL (IFB-12 BOARD)	
5	* 9-939-836-01	AUDIO SUB BOARD COMPLETE	
6	* 9-939-574-02	IFB-12 BOARD, COMPLETE	
6	* 9-939-574-03	IFB-12A BOARD, COMPLETE	

SECTION 5
ELECTRICAL PARTS LIST

NOTE:

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

When indicating parts by reference number, please include the board name.

- Items marked " * " are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.

RESISTORS
- All resistors are in ohms
- F : nonflammable

- CAPACITORS
  PF : μμ F
- There are some cases the reference number on one board overlaps on the other board. Therefore, when ordering parts by the reference number, please include the board name.

【使用上の注意】

⚠印の部品は，安全性を維持するために，重要な部品です。従って交換時は，必ず指定の部品を使用してください。

お願い
図面番号で部品を指定するときは，基板名又はブロックを併せて指定して下さい。

- **抵抗の単位Ωは省略してあります。**
  参考欄のFは不燃性抵抗を示します。
- **＊印の部品は常時在庫しておりません。**
- **ここに記載されている部品は，補修部品であるため，回路図及びセットについている部品と異なる場合があります。**

IFB-12 (OLD) : (J: S/N030,001 to 031,450 / U/C, AEP: S/N 040,001 to 041,750)
IFB-12 (NEW): (J: S/N031,451 and later / U/C, AEP: S/N 041,751 and later)

Rf.NO.	PART NO.	DESCRIPTION			REMARK
	* 9-939-574-01	IFB-12 (OLD) BOARD, COMPLETE			
		**********			
		< CAPACITOR >			
C1	1-135-159-21	TANTAL CHIP	10uF		16V
C2	1-135-159-21	TANTAL CHIP	10uF		16V
C3	1-135-159-21	TANTAL CHIP	10uF		16V
C4	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C5	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C6	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C7	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C8	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C9	1-135-159-21	TANTAL CHIP	10uF		16V
C10	1-135-159-21	TANTAL CHIP	10uF		16V
C11	1-135-159-21	TANTAL CHIP	10uF		16V
C12	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C13	1-163-121-00	CERAMIC CHIP	150PF		50V
C14	1-135-159-21	TANTAL CHIP	10uF		16V
C15	1-135-159-21	TANTAL CHIP	10uF		16V
C16	1-126-967-11	ELECT	47uF		16V
C18	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C19	1-135-159-21	TANTAL CHIP	10uF		16V
C20	1-135-159-21	TANTAL CHIP	10uF		16V
C21	1-126-933-91	ELECT	100uF		16V
C22	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C23	1-126-967-11	ELECT	47uF		16V
C24	1-135-159-21	TANTAL CHIP	10uF		16V
C26	1-124-779-00	ELECT	10uF		16V
C27	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C28	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C29	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C30	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C31	1-126-967-11	ELECT	47uF		16V
C32	1-124-779-00	ELECT	10uF		16V
C33	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C34	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C35	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C36	1-135-159-21	TANTAL CHIP	10uF		16V
C37	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C38	1-126-923-11	ELECT	2200uF		10V
C39	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C44	1-135-159-21	TANTAL CHIP	10uF		16V
C46	1-124-779-00	ELECT	10uF		16V
C47	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C48	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C49	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C50	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C51	1-126-967-11	ELECT	47uF		16V
C52	1-124-779-00	ELECT	10uF		16V
C53	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C54	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C55	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C56	1-135-159-21	TANTAL CHIP	10uF		16V
C57	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C58	1-126-923-11	ELECT	2200uF		10V
C59	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C61	1-163-217-11	CERAMIC CHIP	1PF	0.25PF	50V
C62	1-163-085-00	CERAMIC CHIP	2PF	0.25uF	50V
C63	1-163-217-11	CERAMIC CHIP	1PF	0.25PF	50V
C64	1-124-779-91	ELECT	10uF	20%	16V
C66	1-124-779-00	ELECT	10uF		16V
C67	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C68	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C69	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

IFB-12 (OLD)

Rf.NO.	PART NO.	DESCRIPTION			REMARK
C70	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C71	1-126-967-11	ELECT	47uF		16V
C72	1-124-779-00	ELECT	10uF		16V
C73	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C74	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C75	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C76	1-135-159-21	TANTAL CHIP	10uF		16V
C77	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C78	1-126-923-11	ELECT	2200uF		10V
C80	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C81	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C82	1-135-159-21	TANTAL CHIP	10uF		16V
C84	1-124-779-00	ELECT	10uF		16V
C85	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C88	1-126-923-11	ELECT	2200uF		10V
C89	1-135-159-21	TANTAL CHIP	10uF		16V
C91	1-124-779-00	ELECT	10uF		16V
C92	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C95	1-126-923-11	ELECT	2200uF		10V
C96	1-135-159-21	TANTAL CHIP	10uF		16V
C98	1-124-779-00	ELECT	10uF		16V
C99	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C102	1-126-923-11	ELECT	2200uF		10V
C103	1-124-779-00	ELECT	10uF		16V
C104	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C105	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C106	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C107	1-124-779-00	ELECT	10uF		16V
C108	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C109	1-124-779-00	ELECT	10uF		16V
C110	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V
C111	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C112	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C113	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V

< CONNECTOR >

CN1	1-564-515-11	CONNECTOR (12P)
CN2	1-564-508-11	CONNECTOR (5P)
CN3	9-939-564-01	CONNECTOR (DIN) (96P)

< CIRCUIT MODULE >

CR1	9-939-555-01	CR MODULE (CR3000)
CR2	9-939-555-01	CR MODULE (CR3000)
CR3	9-939-555-01	CR MODULE (CR3000)

< DIODE >

D1	8-719-800-76	DIODE 1SS226
D3	8-719-800-76	DIODE 1SS226
D4	8-719-800-76	DIODE 1SS226
D5	8-719-800-76	DIODE 1SS226
D6	8-719-157-88	DIODE RD2.7SB
D7	8-719-800-76	DIODE 1SS226
D8	8-719-800-76	DIODE 1SS226
D9	8-719-800-76	DIODE 1SS226
D10	8-719-800-76	DIODE 1SS226
D11	8-719-800-76	DIODE 1SS226
D12	8-719-800-76	DIODE 1SS226
D13	8-719-800-76	DIODE 1SS226
D14	8-719-800-76	DIODE 1SS226
D15	8-719-800-76	DIODE 1SS226
D16	8-719-800-76	DIODE 1SS226
D17	8-719-800-76	DIODE 1SS226
D18	8-719-800-76	DIODE 1SS226
D19	8-719-800-76	DIODE 1SS226

< IC >

IC1	8-759-710-78	IC NJM082BM
IC2	9-939-859-01	IC GS4881-CKA
IC3	8-759-092-80	IC SN75157PS
IC4	8-759-242-66	IC TC4W66F
IC5	9-939-533-01	IC SN75453BPS
IC6	8-759-708-05	IC NJM78L05A
IC7	9-939-532-01	IC OPA658U
IC8	9-939-532-01	IC OPA658U
IC9	9-939-532-01	IC OPA658U
IC10	9-939-534-01	IC MPC100AU
IC11	9-939-534-01	IC MPC100AU
IC12	9-939-534-01	IC MPC100AU
IC13	9-939-532-01	IC OPA658U
IC14	9-939-532-01	IC OPA658U
IC15	9-939-532-01	IC OPA658U
IC16	8-759-710-78	IC NJM082BM
IC17	8-759-710-78	IC NJM082BM
IC19	9-939-532-01	IC OPA658U
IC20	9-939-532-01	IC OPA658U
IC21	9-939-532-01	IC OPA658U
IC22	8-759-708-05	IC NJM78L05A
IC23	8-759-708-05	IC NJM78L05A
IC24	8-759-231-57	IC TA7810S
IC25	8-759-925-72	IC SN74HC02ANS
IC26	8-759-700-07	IC NJM2903M

< JACK >

J1	9-939-566-01	CONNECTOR, BNC (R-Y/VIDEO, R/PR)
J2	9-939-566-01	CONNECTOR, BNC (Y/Y, G/Y)
J3	9-939-566-01	CONNECTOR, BNC (B-Y/C, B/PB)
J4	9-939-566-01	CONNECTOR, BNC (SYNC HD)
J5	9-939-566-01	CONNECTOR, BNC (VD)

< SHORT PLUG >

JP1	9-939-562-01	SHORT PLUG (3P)
JP2	9-939-562-01	SHORT PLUG (3P)
JP3	9-939-562-01	SHORT PLUG (3P)
JP4	9-939-562-01	SHORT PLUG (3P)
JP5	9-939-563-01	SHORT SOCKET

< LED >

LD1	9-939-552-01	LED MVR3668S (POWER)

< TRANSISTOR >

Q1	9-939-536-01	TRANSISTOR RN1423
Q2	9-939-535-01	TRANSISTOR RN1310
Q4	9-939-536-01	TRANSISTOR RN1423
Q5	9-939-536-01	TRANSISTOR RN1423
Q6	9-939-536-01	TRANSISTOR RN1423

Rf.NO.	PART NO.	DESCRIPTION			REMARK
Q7	9-939-536-01	TRANSISTOR RN1423			
Q8	9-939-536-01	TRANSISTOR RN1423			
Q9	9-939-535-01	TRANSISTOR RN1310			
Q10	9-939-535-01	TRANSISTOR RN1310			
Q11	9-939-537-01	TRANSISTOR HN1B01F			
Q13	8-729-216-22	TRANSISTOR 2SA1162-G			
Q14	8-729-120-12	TRANSISTOR 2SC1623			
Q15	9-939-537-01	TRANSISTOR HN1B01F			
Q16	9-939-535-01	TRANSISTOR RN1310			
Q17	9-939-535-01	TRANSISTOR RN1310			
Q18	9-939-539-01	TRANSISTOR HN1A01F			
Q19	9-939-539-01	TRANSISTOR HN1A01F			
Q20	9-939-539-01	TRANSISTOR HN1A01F			
Q21	9-939-536-01	TRANSISTOR RN1423			
Q22	8-729-216-22	TRANSISTOR 2SA1162-G			
Q23	9-939-535-01	TRANSISTOR RN1310			
Q24	9-939-535-01	TRANSISTOR RN1310			
Q25	9-939-535-01	TRANSISTOR RN1310			
Q26	9-939-538-01	TRANSISTOR HN1C01F			
Q28	9-939-551-01	TRANSISTOR 2SA1388			
	< RESISTOR >				
R1	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W
R2	1-216-624-11	METAL, CHIP	75	1%	1/10W
R3	1-216-624-11	METAL, CHIP	75	1%	1/10W
R4	1-216-624-11	METAL, CHIP	75	1%	1/10W
R5	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R6	1-216-624-11	METAL, CHIP	75	1%	1/10W
R7	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R8	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R9	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R10	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R11	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R12	1-216-085-91	METAL, CHIP	33K	5%	1/10W
R13	1-216-089-91	METAL, CHIP	47K	5%	1/10W
R14	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R15	1-216-041-00	METAL, CHIP	470	5%	1/10W
R16	1-216-057-00	METAL, CHIP	2.2K	5%	1/10W
R17	1-216-112-00	METAL, CHIP	430K	5%	1/10W
R18	1-216-624-11	METAL, CHIP	75	1%	1/10W
R19	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R20	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R21	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R22	1-216-065-91	METAL, CHIP	4.7K	5%	1/10W
R23	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R24	1-216-089-91	METAL, CHIP	47K	5%	1/10W
R25	1-216-089-91	METAL, CHIP	47K	5%	1/10W
R26	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R27	1-216-121-11	METAL, CHIP	1M	5%	1/10W
R28	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R29	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R30	1-216-065-91	METAL, CHIP	4.7K	5%	1/10W
R31	1-216-121-11	METAL, CHIP	1M	5%	1/10W
R32	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R33	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R34	1-216-065-91	METAL, CHIP	4.7K	5%	1/10W
R35	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R36	1-216-121-11	METAL, CHIP	1M	5%	1/10W
R37	1-216-121-11	METAL, CHIP	1M	5%	1/10W
R38	1-216-121-11	METAL, CHIP	1M	5%	1/10W

Rf.NO.	PART NO.	DESCRIPTION			REMARK
R39	1-216-121-11	METAL, CHIP	1M	5%	1/10W
R40	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R41	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R42	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R43	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R44	9-939-554-01	CARBON	33		1W F
R45	1-216-642-11	METAL, CHIP	430	0.50%	1/10W
R46	9-939-553-01	METAL, CHIP	150	5%	1/4W
R47	1-216-053-00	METAL, CHIP	1.5K	5%	1/10W
R48	1-216-017-91	METAL, CHIP	47	5%	1/10W
R49	1-216-017-91	METAL, CHIP	47	5%	1/10W
R50	1-216-624-11	METAL, CHIP	75	1%	1/10W
R51	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R52	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R55	1-216-001-00	METAL, CHIP	10	5%	1/10W
R56	1-216-642-11	METAL, CHIP	430	0.50%	1/10W
R57	1-216-633-11	METAL, CHIP	180	1%	1/10W
R58	1-216-626-11	METAL, CHIP	91	1%	1/10W
R59	1-216-623-11	METAL, CHIP	68	1%	1/10W
R60	1-216-308-00	METAL, CHIP	4.7	5%	1/10W
R61	1-216-624-11	METAL, CHIP	75	1%	1/10W
R62	1-216-632-11	METAL, CHIP	160	1%	1/10W
R63	1-216-633-11	METAL, CHIP	180	1%	1/10W
R64	1-208-767-11	METAL, CHIP	240	1%	1/10W
R65	1-216-027-00	METAL, CHIP	120	5%	1/10W
R66	1-216-629-11	METAL, CHIP	120	1%	1/10W
R67	1-216-629-11	METAL, CHIP	120	1%	1/10W
R68	1-216-629-11	METAL, CHIP	120	1%	1/10W
R69	1-216-001-00	METAL, CHIP	10	5%	1/10W
R70	1-216-001-00	METAL, CHIP	10	5%	1/10W
R71	1-216-001-00	METAL, CHIP	10	5%	1/10W
R72	1-216-001-00	METAL, CHIP	10	5%	1/10W
R73	1-216-001-00	METAL, CHIP	10	5%	1/10W
R74	1-216-625-11	METAL, CHIP	82	1%	1/10W
R75	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R76	1-216-641-11	METAL, CHIP	390	0.50%	1/10W
R77	1-216-121-11	METAL, CHIP	1M	5%	1/10W
R78	1-216-121-11	METAL, CHIP	1M	5%	1/10W
R79	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R80	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R81	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R82	1-216-624-11	METAL, CHIP	75	1%	1/10W
R83	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R90	1-216-624-11	METAL, CHIP	75	1%	1/10W
R91	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R92	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R95	1-216-001-00	METAL, CHIP	10	5%	1/10W
R96	1-216-642-11	METAL, CHIP	430	0.50%	1/10W
R97	1-216-633-11	METAL, CHIP	180	1%	1/10W
R98	1-216-626-11	METAL, CHIP	91	1%	1/10W
R99	1-216-623-11	METAL, CHIP	68	1%	1/10W
R100	1-216-308-00	METAL, CHIP	4.7	5%	1/10W
R101	1-216-624-11	METAL, CHIP	75	1%	1/10W
R102	1-216-632-11	METAL, CHIP	160	1%	1/10W
R103	1-216-633-11	METAL, CHIP	180	1%	1/10W
R104	1-208-767-11	METAL, CHIP	240	1%	1/10W
R105	1-216-629-11	METAL, CHIP	120	1%	1/10W
R106	1-216-629-11	METAL, CHIP	120	1%	1/10W
R107	1-216-629-11	METAL, CHIP	120	1%	1/10W
R108	1-216-629-11	METAL, CHIP	120	1%	1/10W

IFB-12 (OLD)

Rf.NO.	PART NO.	DESCRIPTION			REMARK
R109	1-216-001-00	METAL, CHIP	10	5%	1/10W
R110	1-216-001-00	METAL, CHIP	10	5%	1/10W
R111	1-216-001-00	METAL, CHIP	10	5%	1/10W
R112	1-216-001-00	METAL, CHIP	10	5%	1/10W
R113	1-216-001-00	METAL, CHIP	10	5%	1/10W
R114	1-216-625-11	METAL, CHIP	82	1%	1/10W
R115	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R116	1-216-641-11	METAL, CHIP	390	0.50%	1/10W
R117	1-216-121-11	METAL, CHIP	1M	5%	1/10W
R118	1-216-121-11	METAL, CHIP	1M	5%	1/10W
R119	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R120	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R121	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R122	1-216-624-11	METAL, CHIP	75	1%	1/10W
R123	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R130	1-216-624-11	METAL, CHIP	75	1%	1/10W
R131	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R132	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R135	1-216-001-00	METAL, CHIP	10	5%	1/10W
R136	1-216-642-11	METAL, CHIP	430	0.50%	1/10W
R137	1-216-633-11	METAL, CHIP	180	1%	1/10W
R138	1-216-626-11	METAL, CHIP	91	1%	1/10W
R139	1-216-623-11	METAL, CHIP	68	1%	1/10W
R140	1-216-308-00	METAL, CHIP	4.7	5%	1/10W
R141	1-216-624-11	METAL, CHIP	75	1%	1/10W
R142	1-216-632-11	METAL, CHIP	160	1%	1/10W
R143	1-216-633-11	METAL, CHIP	180	1%	1/10W
R144	1-208-767-11	METAL, CHIP	240	1%	1/10W
R145	1-216-629-11	METAL, CHIP	120	1%	1/10W
R146	1-216-629-11	METAL, CHIP	120	1%	1/10W
R147	1-216-629-11	METAL, CHIP	120	1%	1/10W
R148	1-216-629-11	METAL, CHIP	120	1%	1/10W
R149	1-216-001-00	METAL, CHIP	10	5%	1/10W
R150	1-216-001-00	METAL, CHIP	10	5%	1/10W
R151	1-216-001-00	METAL, CHIP	10	5%	1/10W
R152	1-216-001-00	METAL, CHIP	10	5%	1/10W
R153	1-216-001-00	METAL, CHIP	10	5%	1/10W
R154	1-216-625-11	METAL, CHIP	82	1%	1/10W
R155	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R156	1-216-641-11	METAL, CHIP	390	0.50%	1/10W
R157	1-216-121-11	METAL, CHIP	1M	5%	1/10W
R158	1-216-121-11	METAL, CHIP	1M	5%	1/10W
R159	1-216-097-91	METAL, CHIP	100K	5%	1/10W
R160	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R161	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R162	1-216-624-11	METAL, CHIP	75	1%	1/10W
R163	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R165	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R166	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R167	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R168	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R169	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R170	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R171	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R172	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R173	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R174	1-216-001-00	METAL, CHIP	10	5%	1/10W
R175	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R176	1-216-641-11	METAL, CHIP	390	0.50%	1/10W
R177	1-216-624-11	METAL, CHIP	75	1%	1/10W
R178	1-216-047-91	METAL, CHIP	820	5%	1/10W
R179	1-216-047-91	METAL, CHIP	820	5%	1/10W
R181	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R182	1-216-001-00	METAL, CHIP	10	5%	1/10W
R183	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R184	1-216-641-11	METAL, CHIP	390	0.50%	1/10W
R185	1-216-624-11	METAL, CHIP	75	1%	1/10W
R186	1-216-047-91	METAL, CHIP	820	5%	1/10W
R187	1-216-047-91	METAL, CHIP	820	5%	1/10W
R189	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R190	1-216-001-00	METAL, CHIP	10	5%	1/10W
R191	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R192	1-216-641-11	METAL, CHIP	390	0.50%	1/10W
R193	1-216-624-11	METAL, CHIP	75	1%	1/10W
R194	1-216-047-91	METAL, CHIP	820	5%	1/10W
R195	1-216-047-91	METAL, CHIP	820	5%	1/10W
R197	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R198	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R199	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R200	1-216-041-11	METAL, CHIP	470	5%	1/10W
R201	1-216-071-00	METAL, CHIP	8.2K	5%	1/10W
R202	1-216-067-00	METAL, CHIP	5.6K	5%	1/10W
R203	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R204	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R205	1-216-049-91	METAL, CHIP	1K	1%	1/10W
R206	1-216-065-91	METAL, CHIP	4.7K	5%	1/10W
R207	1-216-065-91	METAL, CHIP	4.7K	5%	1/10W
R208	1-249-470-11	CARBON	0.47		1/2W F
R211	1-216-073-00	METAL, CHIP	10K	5%	1/10W
R212	1-216-089-91	METAL, CHIP	47K	5%	1/10W
R213	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R214	1-216-089-91	METAL, CHIP	47K	5%	1/10W
R215	1-216-017-91	METAL, CHIP	47	5%	1/10W
R216	1-216-081-00	METAL, CHIP	22K	5%	1/10W
R219	1-216-627-11	METAL, CHIP	100	5%	1/10W

< RELAY >

RY1	9-939-556-01	RELAY
RY2	9-939-556-01	RELAY
RY3	9-939-556-01	RELAY
RY4	9-939-556-01	RELAY
RY5	9-939-556-01	RELAY
RY6	9-939-556-01	RELAY
RY7	9-939-556-01	RELAY
RY8	9-939-556-01	RELAY
RY9	9-939-556-01	RELAY

< SWITCH >

S1	9-939-557-01	SWITCH, DIP
S2	9-939-558-01	SWITCH, SLIDE (IN/OUT SELECT)
S3	9-939-559-01	SWITCH, SLIDE
S4	9-939-559-01	SWITCH, SLIDE
S5	9-939-559-01	SWITCH, SLIDE
S6	9-939-559-01	SWITCH, SLIDE
S7	9-939-559-01	SWITCH, SLIDE
S8	9-939-561-01	SWITCH, ROTARY
S12	9-939-560-01	SWITCH, SLIDE

****

Rf.NO.	PART NO.	DESCRIPTION			REMARK
	* 9-939-574-02	IFB-12 (NEW) BOARD, COMPLETE			
		**********			
	* 9-939-574-03	IFB-12A BOARD, COMPLETE			
		**********			
	< CAPACITOR >				
C1	1-128-426-11	ELECT	47uF	20%	16V
C2	1-126-791-11	ELECT	10uF	20%	16V
C3	1-126-791-11	ELECT	10uF	20%	16V
C4	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C5	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C6	1-164-005-11	CERAMIC CHIP	0.22uF		25V
C7	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C8	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C9	1-128-426-11	ELECT	47uF	20%	16V
C10	1-126-791-11	ELECT	10uF	20%	16V
C11	1-126-791-11	ELECT	10uF	20%	16V
C12	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C13	1-163-251-11	CERAMIC CHIP	100PF	5%	50V
C14	1-126-791-11	ELECT	10uF	20%	16V
C15	1-126-791-11	ELECT	10uF	20%	16V
C16	1-128-426-11	ELECT	47uF	20%	16V
C17	1-164-005-11	CERAMIC CHIP	0.22uF		25V
C18	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C19	1-126-791-11	ELECT	10uF	20%	16V
C20	1-126-791-11	ELECT	10uF	20%	16V
C21	1-126-791-11	ELECT	10uF	20%	16V
C22	1-164-005-11	CERAMIC CHIP	0.22uF		25V
C23	1-128-426-11	ELECT	47uF	20%	16V
C24	1-126-791-11	ELECT	10uF	20%	16V
C25	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C26	1-126-791-11	ELECT	10uF	20%	16V
C27	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C28	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C29	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C30	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C31	1-128-426-11	ELECT	47uF	20%	16V
C32	1-126-791-11	ELECT	10uF	20%	16V
C33	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C34	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C35	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C36	1-126-791-11	ELECT	10uF	20%	16V
C37	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C38	1-126-923-11	ELECT	2200uF		10V
C39	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C44	1-126-791-11	ELECT	10uF	20%	16V
C45	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C46	1-126-791-11	ELECT	10uF	20%	16V
C47	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C48	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C49	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C50	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C51	1-128-426-11	ELECT	47uF	20%	16V
C52	1-126-791-11	ELECT	10uF	20%	16V
C53	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C54	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C55	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C56	1-126-791-11	ELECT	10uF	20%	16V
C57	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C58	1-126-923-11	ELECT	2200uF		10V
C59	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C61	1-163-217-11	CERAMIC CHIP	1PF	0.25PF	50V
C62	1-163-084-00	CERAMIC CHIP	1.5PF	0.25PF	50V
C63	1-163-084-00	CERAMIC CHIP	1.5PF	0.25PF	50V
C64	1-126-791-11	ELECT	10uF	20%	16V
C65	1-163-222-11	CERAMIC CHIP	5PF	0.25PF	50V
C66	1-126-791-11	ELECT	10uF	20%	16V
C67	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C68	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C69	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C70	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C71	1-128-426-11	ELECT	47uF	20%	16V
C72	1-126-791-11	ELECT	10uF	20%	16V
C73	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C74	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C75	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C76	1-126-791-11	ELECT	10uF	20%	16V
C77	1-163-231-11	CERAMIC CHIP	15PF	5%	50V
C78	1-126-923-11	ELECT	2200uF		10V
C80	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C82	1-128-426-11	ELECT	47uF	20%	16V
C84	1-126-791-11	ELECT	10uF	20%	16V
C85	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C88	1-126-923-11	ELECT	2200uF		10V
C89	1-128-426-11	ELECT	47uF	20%	16V
C91	1-126-791-11	ELECT	10uF	20%	16V
C92	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C95	1-126-923-11	ELECT	2200uF		10V
C96	1-128-426-11	ELECT	47uF	20%	16V
C98	1-126-791-11	ELECT	10uF	20%	16V
C99	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C102	1-126-923-11	ELECT	2200uF		10V
C103	1-126-791-11	ELECT	10uF	20%	16V
C104	1-164-005-11	CERAMIC CHIP	0.22uF		25V (IFB-12A)
C104	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V (IFB-12 (NEW))
C105	1-164-005-11	CERAMIC CHIP	0.22uF		25V (IFB-12A)
C105	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V (IFB-12 (NEW))
C106	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C107	1-128-423-91	ELECT	10uF	20%	25V
C108	1-164-005-11	CERAMIC CHIP	0.22uF		25V (IFB-12A)
C108	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V (IFB-12 (NEW))
C109	1-126-791-11	ELECT	10uF	20%	16V
C110	1-164-005-11	CERAMIC CHIP	0.22uF		25V (IFB-12A)
C110	1-164-489-11	CERAMIC CHIP	0.22uF	10%	16V (IFB-12 (NEW))
C111	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C112	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
C113	1-164-004-11	CERAMIC CHIP	0.1uF	10%	25V
	< CONNECTOR >				
CN1	9-939-566-01	CONNECTOR, BNC (R-Y/VIDEO, R/PR)			
CN2	9-939-566-01	CONNECTOR, BNC (Y/Y, G/Y)			
CN3	9-939-566-01	CONNECTOR, BNC (B-Y/C, B/PB)			

Rf.NO.	PART NO.	DESCRIPTION	REMARK
CN4	9-939-566-01	CONNECTOR, BNC (SYNC HD)	
CN5	9-939-566-01	CONNECTOR, BNC (VD)	
		< CIRCUIT MODULE >	
CR1	9-939-555-01	CR MODULE (CR3000)	
CR2	9-939-555-01	CR MODULE (CR3000)	
CR3	9-939-555-01	CR MODULE (CR3000)	
		< DIODE >	
D1	8-719-800-76	DIODE 1SS226	
D3	8-719-800-76	DIODE 1SS226	
D4	8-719-800-76	DIODE 1SS226	
D5	8-719-800-76	DIODE 1SS226	
D6	8-719-157-88	DIODE RD2.7SB	
D7	8-719-800-76	DIODE 1SS226	
D8	8-719-800-76	DIODE 1SS226	
D9	8-719-800-76	DIODE 1SS226	
D10	8-719-800-76	DIODE 1SS226	
D11	8-719-800-76	DIODE 1SS226	
D12	8-719-800-76	DIODE 1SS226	
D13	8-719-800-76	DIODE 1SS226	
D14	8-719-800-76	DIODE 1SS226	
D15	8-719-800-76	DIODE 1SS226	
D16	8-719-800-76	DIODE 1SS226	
D17	8-719-800-76	DIODE 1SS226	
D18	8-719-800-76	DIODE 1SS226 (IFB-12 (NEW))	
D19	8-719-800-76	DIODE 1SS226	
D20	8-719-800-76	DIODE 1SS226	
D21	8-719-800-76	DIODE 1SS226	
D22	8-719-800-76	DIODE 1SS226	
D23	8-719-800-76	DIODE 1SS226	
D24	8-719-800-76	DIODE 1SS226	
		< IC >	
IC1	8-759-710-78	IC NJM082BM	
IC2	9-933-859-01	IC GS4881-CKA	
IC3	8-759-092-80	IC SN75157PS	
IC4	8-759-242-66	IC TC4W66F	
IC6	8-759-708-05	IC NJM78L05A	
IC7	9-939-532-01	IC OPA658U	
IC8	9-939-532-01	IC OPA658U	
IC9	9-939-532-01	IC OPA658U	
IC10	9-939-534-01	IC MPC100AU	
IC11	9-939-534-01	IC MPC100AU	
IC12	9-939-534-01	IC MPC100AU	
IC13	9-939-532-01	IC OPA658U	
IC14	9-939-532-01	IC OPA658U	
IC15	9-939-532-01	IC OPA658U	
IC16	8-759-710-78	IC NJM082BM	
IC17	8-759-710-78	IC NJM082BM	
IC19	9-939-532-01	IC OPA658U	
IC20	9-939-532-01	IC OPA658U	
IC21	9-939-532-01	IC OPA658U	
IC22	8-759-708-05	IC NJM78L05A	
IC23	8-759-708-05	IC NJM78L05A	
IC24	8-759-231-57	IC TA7810S	
IC25	8-759-925-72	IC SN74HC02ANS	
IC26	8-759-700-07	IC NJM2903M	

Rf.NO.	PART NO.	DESCRIPTION	REMARK
		< JACK >	
J1	9-939-564-01	CONNECTOR (DIN) (96P)	
J2	1-564-515-11	CONNECTOR (12P)	
J3	1-564-508-11	CONNECTOR (5P)	
		< SHORT PLUG >	
JP1	9-939-562-01	SHORT PLUG (3P)	
JP2	9-939-562-01	SHORT PLUG (3P)	
JP3	9-939-562-01	SHORT PLUG (3P)	
JP4	9-939-562-01	SHORT PLUG (3P)	
JP5	9-939-562-01	SHORT PLUG (3P)	
		< LED >	
LD1	9-939-552-01	LED MVR3668S (POWER)	
		< TRANSISTOR >	
Q1	9-939-536-01	TRANSISTOR RN1423	
Q2	9-939-535-01	TRANSISTOR RN1310	
Q4	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q5	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q6	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q7	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q8	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q9	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q10	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q11	9-939-537-01	TRANSISTOR HN1B01F	
Q12	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q13	8-729-216-22	TRANSISTOR 2SA1162-G	
Q14	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q15	9-939-537-01	TRANSISTOR HN1B01F	
Q16	9-939-535-01	TRANSISTOR RN1310	
Q17	9-939-535-01	TRANSISTOR RN1310	
Q18	9-939-539-01	TRANSISTOR HN1A01F	
Q19	9-939-539-01	TRANSISTOR HN1A01F	
Q20	9-939-539-01	TRANSISTOR HN1A01F	
Q21	9-939-536-01	TRANSISTOR RN1423	
Q22	8-729-216-22	TRANSISTOR 2SA1162-G	
Q23	9-939-535-01	TRANSISTOR RN1310	
Q24	9-939-535-01	TRANSISTOR RN1310	
Q25	9-939-535-01	TRANSISTOR RN1310	
Q26	9-939-538-01	TRANSISTOR HN1C01F	
Q27	8-729-216-22	TRANSISTOR 2SA1162-G	
Q28	9-939-551-01	TRANSISTOR 2SA1388	
Q29	8-729-216-22	TRANSISTOR 2SA1162-G	
Q30	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q31	8-729-216-22	TRANSISTOR 2SA1162-G	
Q32	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
Q33	8-729-216-22	TRANSISTOR 2SA1162-G	
Q34	8-729-120-28	TRANSISTOR 2SC1623-L5L6	
		< RESISTOR >	
R1	1-216-659-11	METAL, CHIP 2.2K 0.50% 1/10W	
R2	9-881-616-01	METAL, CHIP 75 1% 1/2W	
R3	9-881-616-01	METAL, CHIP 75 1% 1/2W	
R4	9-881-616-01	METAL, CHIP 75 1% 1/2W	
R5	1-216-049-91	METAL, CHIP 1K 5% 1/10W	

Rf.NO.	PART NO.	DESCRIPTION		REMARK
R6	9-881-616-01	METAL, CHIP	75	1% 1/2W
R7	1-216-675-11	METAL, CHIP	10K	0.50% 1/10W (IFB-12A)
R7	1-216-073-00	METAL, CHIP	10K	5% 1/10W (IFB-12 (NEW))
R8	1-216-089-91	METAL, CHIP	47K	5% 1/10W
R9	1-216-679-11	METAL, CHIP	15K	0.50% 1/10W
R10	1-216-659-11	METAL, CHIP	2.2K	0.50% 1/10W (IFB-12A)
R10	1-216-049-91	METAL, CHIP	1K	1% 1/10W (IFB-12 (NEW))
R11	1-216-089-91	METAL, CHIP	47K	5% 1/10W
R12	1-216-689-11	METAL, CHIP	39K	0.50% 1/10W (IFB-12A)
R12	1-216-085-91	METAL, CHIP	33K	5% 1/10W (IFB-12 (NEW))
R13	1-216-089-91	METAL, CHIP	47K	5% 1/10W
R14	1-216-089-91	METAL, CHIP	47K	5% 1/10W
R16	1-216-659-11	METAL, CHIP	2.2K	0.50% 1/10W
R17	1-216-112-00	METAL, CHIP	430K	5% 1/10W
R18	9-881-616-01	METAL, CHIP	75	1% 1/2W
R19	1-216-675-11	METAL, CHIP	10K	0.50% 1/10W (IFB-12 A)
R19	1-216-073-00	METAL, CHIP	10K	5% 1/10W (IFB-12 (NEW))
R20	1-216-683-11	METAL, CHIP	22K	0.50% 1/10W
R21	1-216-683-11	METAL, CHIP	22K	0.50% 1/10W
R22	1-216-659-11	METAL, CHIP	2.2K	0.50% 1/10W
R23	1-216-089-91	METAL, CHIP	47K	5% 1/10W
R24	1-216-689-11	METAL, CHIP	39K	0.50% 1/10W
R25	1-216-089-91	METAL, CHIP	47K	5% 1/10W
R26	1-216-089-91	METAL, CHIP	47K	5% 1/10W
R27	1-218-776-11	METAL, CHIP	1M	0.50% 1/10W
R28	1-216-699-11	METAL, CHIP	100K	0.50% 1/10W
R29	1-216-699-11	METAL, CHIP	100K	0.50% 1/10W
R30	1-216-065-91	METAL, CHIP	4.7K	5% 1/10W
R31	1-218-776-11	METAL, CHIP	1M	0.50% 1/10W
R32	1-216-699-11	METAL, CHIP	100K	0.50% 1/10W
R33	1-216-699-11	METAL, CHIP	100K	0.50% 1/10W
R34	1-216-065-91	METAL, CHIP	4.7K	5% 1/10W
R35	1-216-683-11	METAL, CHIP	22K	0.50% 1/10W
R36	1-218-776-11	METAL, CHIP	1M	0.50% 1/10W
R37	1-218-776-11	METAL, CHIP	1M	0.50% 1/10W
R38	1-218-776-11	METAL, CHIP	1M	0.50% 1/10W
R39	1-218-776-11	METAL, CHIP	1M	0.50% 1/10W
R40	1-216-025-91	METAL, CHIP	100	5% 1/10W
R41	1-216-025-91	METAL, CHIP	100	5% 1/10W
R42	1-218-760-11	METAL, CHIP	220K	0.50% 1/10W
R43	1-218-760-11	METAL, CHIP	220K	0.50% 1/10W
R44	1-216-641-11	METAL, CHIP	390	0.50% 1/10W
R45	1-216-049-91	METAL, CHIP	1K	5% 1/10W (IFB-12A)
R45	1-216-642-11	METAL, CHIP	430	0.50% 1/10W (IFB-12 (NEW))
R46	1-216-049-91	METAL, CHIP	1K	5% 1/10W
R47	1-216-663-11	METAL, CHIP	3.3K	0.50% 1/10W (IFB-12A)
R47	1-216-053-00	METAL, CHIP	1.5K	5% 1/10W (IFB-12 (NEW))
R48	1-216-049-91	METAL, CHIP	1K	5% 1/10W
R49	1-216-065-91	METAL, CHIP	4.7K	5% 1/10W
R50	1-216-022-00	METAL, CHIP	75	5% 1/10W
R51	1-216-683-11	METAL, CHIP	22K	0.50% 1/10W
R52	1-216-683-11	METAL, CHIP	22K	0.50% 1/10W
R53	1-216-049-91	METAL, CHIP	1K	5% 1/10W
R54	1-216-659-11	METAL, CHIP	2.2K	0.50% 1/10W (IFB-12A)
R54	1-216-057-00	METAL, CHIP	2.2K	5% 1/10W (IFB-12 (NEW))
R55	1-216-001-00	METAL, CHIP	10	5% 1/10W
R56	1-216-642-11	METAL, CHIP	430	0.50% 1/10W
R57	1-216-031-00	METAL, CHIP	180	5% 1/10W
R58	1-216-024-00	METAL, CHIP	91	0.50% 1/10W
R59	1-216-021-00	METAL, CHIP	68	5% 1/10W
R60	1-216-308-00	METAL, CHIP	4.7	5% 1/10W
R61	1-216-022-00	METAL, CHIP	75	5% 1/10W
R62	1-216-030-00	METAL, CHIP	160	5% 1/10W
R63	1-216-031-00	METAL, CHIP	180	5% 1/10W
R64	1-216-034-00	METAL, CHIP	240	5% 1/10W
R65	1-216-027-00	METAL, CHIP	120	5% 1/10W
R66	1-216-027-00	METAL, CHIP	120	5% 1/10W
R67	1-216-027-00	METAL, CHIP	120	5% 1/10W
R68	1-216-027-00	METAL, CHIP	120	5% 1/10W
R69	1-216-001-00	METAL, CHIP	10	5% 1/10W
R70	1-216-001-00	METAL, CHIP	10	5% 1/10W
R71	1-216-001-00	METAL, CHIP	10	5% 1/10W
R72	1-216-001-00	METAL, CHIP	10	5% 1/10W
R73	1-216-001-00	METAL, CHIP	10	5% 1/10W
R74	1-216-022-00	METAL, CHIP	75	5% 1/10W
R75	1-216-049-91	METAL, CHIP	1K	5% 1/10W
R76	1-216-641-11	METAL, CHIP	390	0.50% 1/10W
R77	1-218-776-11	METAL, CHIP	1M	0.50% 1/10W
R78	1-218-776-11	METAL, CHIP	1M	0.50% 1/10W
R79	1-216-699-11	METAL, CHIP	100K	0.50% 1/10W
R80	1-216-675-11	METAL, CHIP	10K	0.50% 1/10W
R81	1-216-049-91	METAL, CHIP	1K	5% 1/10W
R82	9-881-616-01	METAL, CHIP	75	1% 1/2W
R83	1-216-675-11	METAL, CHIP	10K	0.50% 1/10W
R84	1-216-027-00	METAL, CHIP	120	5% 1/10W
R85	1-216-659-11	METAL, CHIP	2.2K	0.50% 1/10W (IFB-12A)
R85	1-216-057-00	METAL, CHIP	2.2K	5% 1/10W (IFB-12 (NEW))
R86	1-216-025-91	METAL, CHIP	100	5% 1/10W (IFB-12A)
R86	1-216-627-11	METAL, CHIP	100	5% 1/10W (IFB-12 (NEW))
R87	1-216-065-91	METAL, CHIP	4.7K	5% 1/10W
R88	1-216-659-11	METAL, CHIP	2.2K	0.50% 1/10W (IFB-12A)
R88	1-216-057-00	METAL, CHIP	2.2K	5% 1/10W (IFB-12 (NEW))
R89	1-216-049-91	METAL, CHIP	1K	5% 1/10W
R90	1-216-022-00	METAL, CHIP	75	5% 1/10W
R91	1-216-683-11	METAL, CHIP	22K	0.50% 1/10W
R92	1-216-683-11	METAL, CHIP	22K	0.50% 1/10W
R93	1-216-641-11	METAL, CHIP	390	0.50% 1/10W
R94	1-218-760-11	METAL, CHIP	220K	0.50% 1/10W (IFB-12A)
R94	1-216-105-91	METAL, CHIP	220K	5% 1/10W (IFB-12 (NEW))
R95	1-216-001-00	METAL, CHIP	10	5% 1/10W
R96	1-216-642-11	METAL, CHIP	430	0.50% 1/10W
R97	1-216-031-00	METAL, CHIP	180	5% 1/10W
R98	1-216-024-00	METAL, CHIP	91	0.50% 1/10W

IFB-12 (NEW)/IFB-12A

Rf.NO.	PART NO.	DESCRIPTION			REMARK
R99	1-216-021-00	METAL, CHIP	68	5%	1/10W
R100	1-216-308-00	METAL, CHIP	4.7	5%	1/10W
R101	1-216-022-00	METAL, CHIP	75	5%	1/10W
R102	1-216-030-00	METAL, CHIP	160	5%	1/10W
R103	1-216-031-00	METAL, CHIP	180	5%	1/10W
R104	1-216-034-00	METAL, CHIP	240	5%	1/10W
R105	1-216-027-00	METAL, CHIP	120	5%	1/10W
R106	1-216-027-00	METAL, CHIP	120	5%	1/10W
R107	1-216-027-00	METAL, CHIP	120	5%	1/10W
R108	1-216-027-00	METAL, CHIP	120	5%	1/10W
R109	1-216-001-00	METAL, CHIP	10	5%	1/10W
R110	1-216-001-00	METAL, CHIP	10	5%	1/10W
R111	1-216-001-00	METAL, CHIP	10	5%	1/10W
R112	1-216-001-00	METAL, CHIP	10	5%	1/10W
R113	1-216-001-00	METAL, CHIP	10	5%	1/10W
R114	1-216-022-00	METAL, CHIP	75	5%	1/10W
R115	1-216-049-91	METAL, CHIP	1K	5%	1/10W
R116	1-216-641-11	METAL, CHIP	390	0.50%	1/10W
R117	1-218-776-11	METAL, CHIP	1M	0.50%	1/10W
R118	1-218-776-11	METAL, CHIP	1M	0.50%	1/10W
R119	1-216-699-11	METAL, CHIP	100K	0.50%	1/10W (IFB-12 (NEW))
R120	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R121	1-216-049-91	METAL, CHIP	1K	5%	1/10W
R122	9-881-616-01	METAL, CHIP	75	1%	1/2W
R123	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R124	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W (IFB-12A)
R124	1-216-073-00	METAL, CHIP	10K	5%	1/10W (IFB-12 (NEW))
R125	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W (IFB-12A)
R125	1-216-073-00	METAL, CHIP	10K	5%	1/10W (IFB-12 (NEW))
R126	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W (IFB-12A)
R126	1-216-073-00	METAL, CHIP	10K	5%	1/10W (IFB-12 (NEW))
R127	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W (IFB-12A)
R127	1-216-073-00	METAL, CHIP	10K	5%	1/10W (IFB-12 (NEW))
R128	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W (IFB-12A)
R128	1-216-073-00	METAL, CHIP	10K	5%	1/10W (IFB-12 (NEW))
R130	1-216-022-00	METAL, CHIP	75	5%	1/10W
R131	1-216-683-11	METAL, CHIP	22K	0.50%	1/10W
R132	1-216-683-11	METAL, CHIP	22K	0.50%	1/10W
R133	1-216-065-91	METAL, CHIP	4.7K	5%	1/10W (IFB-12A)
R133	1-216-073-00	METAL, CHIP	10K	5%	1/10W (IFB-12 (NEW))
R134	1-216-065-91	METAL, CHIP	4.7K	5%	1/10W (IFB-12A)
R134	1-216-073-00	METAL, CHIP	10K	5%	1/10W (IFB-12 (NEW))
R135	1-216-001-00	METAL, CHIP	10	5%	1/10W
R136	1-216-642-11	METAL, CHIP	430	0.50%	1/10W
R137	1-216-031-00	METAL, CHIP	180	5%	1/10W
R138	1-216-024-00	METAL, CHIP	91	0.50%	1/10W
R139	1-216-021-00	METAL, CHIP	68	5%	1/10W
R140	1-216-308-00	METAL, CHIP	4.7	5%	1/10W
R141	1-216-022-00	METAL, CHIP	75	5%	1/10W
R142	1-216-030-00	METAL, CHIP	160	5%	1/10W
R143	1-216-031-00	METAL, CHIP	180	5%	1/10W
R144	1-216-034-00	METAL, CHIP	240	5%	1/10W
R145	1-216-027-00	METAL, CHIP	120	5%	1/10W
R146	1-216-027-00	METAL, CHIP	120	5%	1/10W
R147	1-216-027-00	METAL, CHIP	120	5%	1/10W
R148	1-216-027-00	METAL, CHIP	120	5%	1/10W
R149	1-216-001-00	METAL, CHIP	10	5%	1/10W
R150	1-216-001-00	METAL, CHIP	10	5%	1/10W
R151	1-216-001-00	METAL, CHIP	10	5%	1/10W
R152	1-216-001-00	METAL, CHIP	10	5%	1/10W
R153	1-216-001-00	METAL, CHIP	10	5%	1/10W
R154	1-216-022-00	METAL, CHIP	75	5%	1/10W
R155	1-216-049-91	METAL, CHIP	1K	5%	1/10W
R156	1-216-641-11	METAL, CHIP	390	0.50%	1/10W
R157	1-218-776-11	METAL, CHIP	1M	0.50%	1/10W
R158	1-218-776-11	METAL, CHIP	1M	0.50%	1/10W
R159	1-216-699-11	METAL, CHIP	100K	0.50%	1/10W (IFB-12 (NEW))
R160	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R161	1-216-049-91	METAL, CHIP	1K	5%	1/10W
R162	9-881-616-01	METAL, CHIP	75	1%	1/2W
R163	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R164	1-216-642-11	METAL, CHIP	430	0.50%	1/10W
R165	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R166	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R167	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R168	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R169	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R170	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R171	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R172	1-216-675-11	METAL, CHIP	10K	0.50%	1/10W
R173	1-216-683-11	METAL, CHIP	22K	0.50%	1/10W
R174	1-216-001-00	METAL, CHIP	10	5%	1/10W
R175	1-216-683-11	METAL, CHIP	22K	0.50%	1/10W
R176	1-216-642-11	METAL, CHIP	430	0.50%	1/10W
R177	1-216-022-00	METAL, CHIP	75	5%	1/10W
R178	1-216-649-11	METAL, CHIP	820	0.50%	1/10W
R179	1-216-649-11	METAL, CHIP	820	0.50%	1/10W
R181	1-216-683-11	METAL, CHIP	22K	0.50%	1/10W
R182	1-216-001-00	METAL, CHIP	10	5%	1/10W
R183	1-216-683-11	METAL, CHIP	22K	0.50%	1/10W
R184	1-216-642-11	METAL, CHIP	430	0.50%	1/10W
R185	1-216-022-00	METAL, CHIP	75	5%	1/10W
R186	1-216-649-11	METAL, CHIP	820	0.50%	1/10W
R187	1-216-649-11	METAL, CHIP	820	0.50%	1/10W
R189	1-216-683-11	METAL, CHIP	22K	0.50%	1/10W
R190	1-216-001-00	METAL, CHIP	10	5%	1/10W
R191	1-216-683-11	METAL, CHIP	22K	0.50%	1/10W
R192	1-216-642-11	METAL, CHIP	430	0.50%	1/10W
R193	1-216-022-00	METAL, CHIP	75	5%	1/10W
R194	1-216-649-11	METAL, CHIP	820	0.50%	1/10W
R195	1-216-649-11	METAL, CHIP	820	0.50%	1/10W
R197	1-216-049-91	METAL, CHIP	1K	5%	1/10W
R198	1-216-049-91	METAL, CHIP	1K	5%	1/10W
R199	1-216-659-11	METAL, CHIP	2.2K	0.50%	1/10W
R200	1-216-642-11	METAL, CHIP	430	0.50%	1/10W
R201	1-216-673-11	METAL, CHIP	8.2K	0.50%	1/10W
R202	1-216-668-11	METAL, CHIP	5.1K	0.50%	1/10W
R203	1-216-683-11	METAL, CHIP	22K	0.50%	1/10W

Rf.NO.	PART NO.	DESCRIPTION		REMARK
R204	1-216-675-11	METAL, CHIP	10K	0.50% 1/10W
R205	1-216-049-91	METAL, CHIP	1K	5% 1/10W
R206	1-216-065-91	METAL, CHIP	4.7K	5% 1/10W
R207	1-216-065-91	METAL, CHIP	4.7K	5% 1/10W
R208	1-249-470-11	CARBON	0.47	1/2W F
R209	1-216-675-11	METAL, CHIP	10K	0.50% 1/10W (IFB-12A)
R209	1-216-073-00	METAL, CHIP	10K	5% 1/10W (IFB-12 (NEW))
R210	1-216-675-11	METAL, CHIP	10K	0.50% 1/10W
R211	1-216-675-11	METAL, CHIP	10K	0.50% 1/10W
R212	1-216-089-91	METAL, CHIP	47K	5% 1/10W
R213	1-216-683-11	METAL, CHIP	22K	0.50% 1/10W
R214	1-216-089-91	METAL, CHIP	47K	5% 1/10W
R215	1-216-065-91	METAL, CHIP	4.7K	5% 1/10W (IFB-12A)
R215	1-216-073-00	METAL, CHIP	10K	5% 1/10W (IFB-12 (NEW))
R216	1-216-065-91	METAL, CHIP	4.7K	5% 1/10W (IFB-12A)
R216	1-216-073-00	METAL, CHIP	10K	5% 1/10W (IFB-12 (NEW))
R217	1-216-065-91	METAL, CHIP	4.7K	5% 1/10W (IFB-12A)
R217	1-216-073-00	METAL, CHIP	10K	5% 1/10W (IFB-12 (NEW))
R219	1-216-025-91	METAL, CHIP	100	5% 1/10W (IFB-12A)
R219	1-216-627-11	METAL, CHIP	100	5% 1/10W (IFB-12 (NEW))
R220	1-216-641-11	METAL, CHIP	390	0.50% 1/10W
R221	1-216-065-91	METAL, CHIP	4.7K	5% 1/10W (IFB-12 (NEW))
R222	1-216-659-11	METAL, CHIP	2.2K	0.50% 1/10W (IFB-12 (NEW))
		< RELAY >		
RL1	9-939-556-01	RELAY		
RL2	9-939-556-01	RELAY		
RL3	9-939-556-01	RELAY		
RL4	9-939-556-01	RELAY		
RL5	9-939-556-01	RELAY		
RL6	9-939-556-01	RELAY		
RL7	9-939-556-01	RELAY		
RL8	9-939-556-01	RELAY		
RL9	9-939-556-01	RELAY		
		< SWITCH >		
SW1	9-939-557-01	SWITCH, DIP		
SW2	9-939-558-01	SWITCH, SLIDE (IN/OUT SELECT)		
SW3	9-939-558-01	SWITCH, SLIDE		
SW4	9-939-558-01	SWITCH, SLIDE		
SW5	9-939-558-01	SWITCH, SLIDE		
SW6	9-939-558-01	SWITCH, SLIDE		
SW7	9-939-558-01	SWITCH, SLIDE		
SW8	9-939-561-01	SWITCH, ROTARY		
SW9	9-939-560-01	SWITCH, SLIDE		
SW10	9-939-560-01	SWITCH, SLIDE		
SW12	9-939-559-01	SWITCH, SLIDE		

****

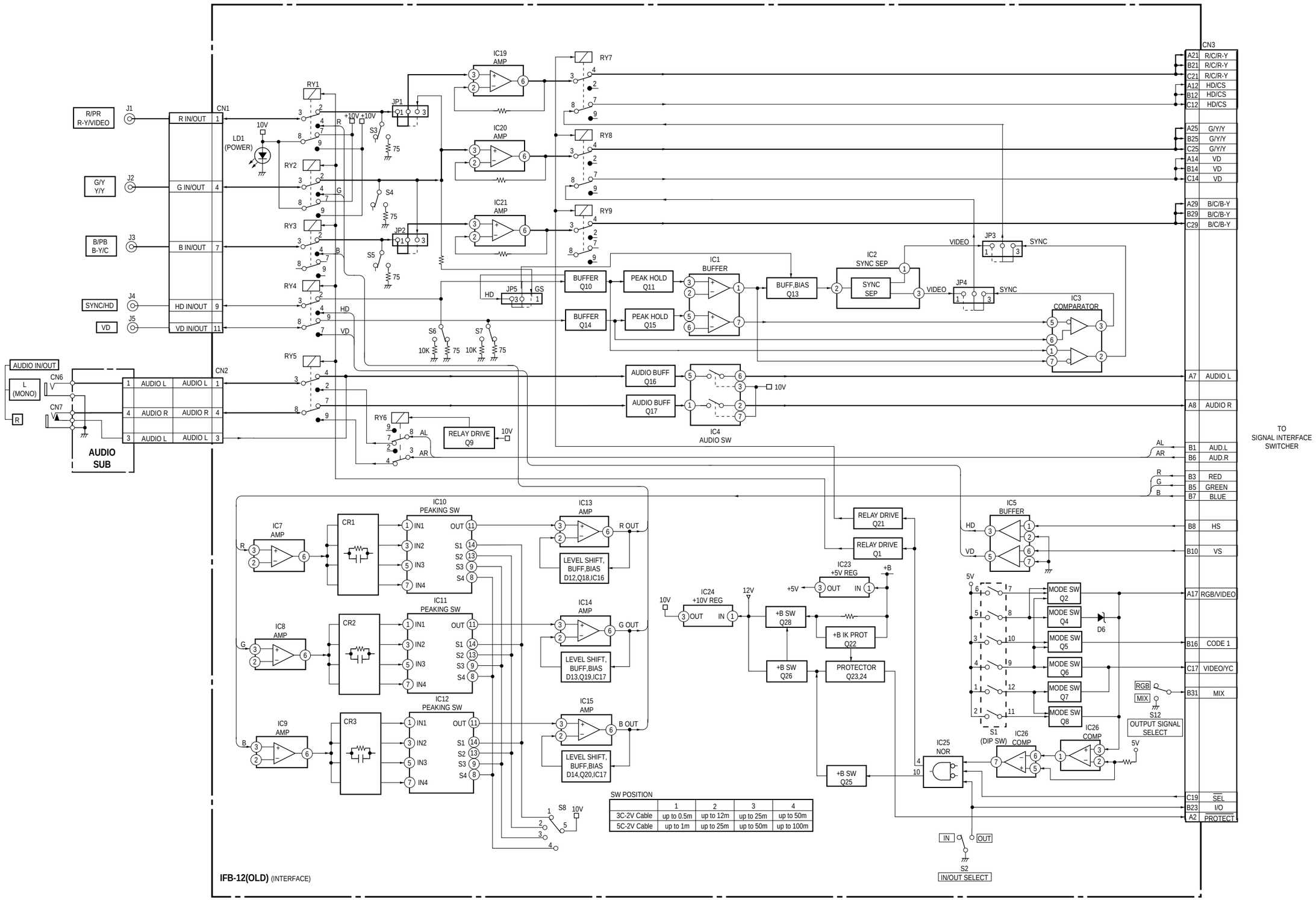
Rf.NO.	PART NO.	DESCRIPTION	REMARK
*	9-939-836-01	AUDIO SUB BOARD, COMPLETE	

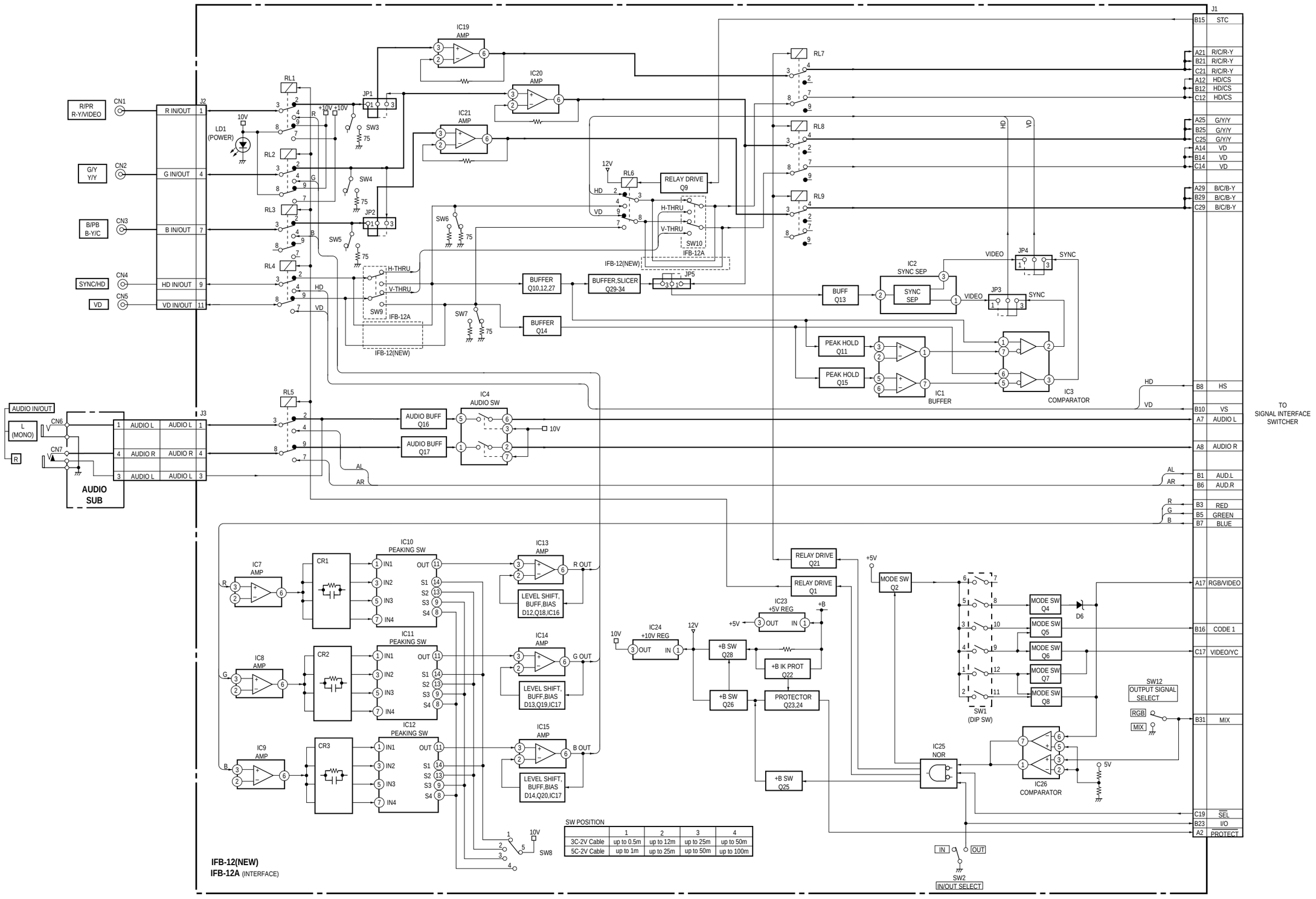
****

Note : AUDIO SUB 基板は、ブロック交換です。
従って、マウント部品については掲載していません。

Note: As the AUDIO SUB BOARD is replaced with a set of block, the parts mounted on this board are not listed.

SECTION 6
BLOCK DIAGRAM




R/PR R-Y/VIDEO
G/Y Y/Y
B/PB B-Y/C
SYNC/HD
VD
CN1
CN2
CN3
CN4
CN5
J2
R IN/OUT 1
G IN/OUT 4
B IN/OUT 7
HD IN/OUT 9
VD IN/OUT 11
AUDIO IN/OUT
L (MONO)
R
CN6
CN7
J3
AUDIO L AUDIO L 1
AUDIO R AUDIO R 4
AUDIO L AUDIO L 3
AUDIO SUB
LD1 (POWER)
10V
RL1
RL2
RL3
RL4
RL5
JP1
JP2
SW3
SW4
SW5
SW6
SW7
SW9
IFB-12A
IFB-12(NEW)
H-THRU
V-THRU
IC19 AMP
IC20 AMP
IC21 AMP
IC4 AUDIO SW
AUDIO BUFF Q16
AUDIO BUFF Q17
BUFFER Q10,12,27
BUFFER Q14
BUFFER,SLICER Q29-34
JP5
RL6
RL7
RL8
RL9
12V
RELAY DRIVE Q9
SW10
IC2 SYNC SEP
BUFF Q13
JP4
JP3
VIDEO
SYNC
PEAK HOLD Q11
PEAK HOLD Q15
IC1 BUFFER
IC3 COMPARATOR
J1
B15 STC
A21 R/C/R-Y
B21 R/C/R-Y
C21 R/C/R-Y
A12 HD/CS
B12 HD/CS
C12 HD/CS
A25 G/Y/Y
B25 G/Y/Y
C25 G/Y/Y
A14 VD
B14 VD
C14 VD
A29 B/C/B-Y
B29 B/C/B-Y
C29 B/C/B-Y
B8 HS
B10 VS
A7 AUDIO L
A8 AUDIO R
B1 AUD.L
B6 AUD.R
B3 RED
B5 GREEN
B7 BLUE
A17 RGB/VIDEO
B16 CODE 1
C17 VIDEO/YC
B31 MIX
C19 SEL
B23 I/O
A2 PROTECT
TO SIGNAL INTERFACE SWITCHER
IC7 AMP
IC8 AMP
IC9 AMP
CR1
CR2
CR3
IC10 PEAKING SW
IC11 PEAKING SW
IC12 PEAKING SW
IC13 AMP
IC14 AMP
IC15 AMP
LEVEL SHIFT, BUFF,BIAS D12,Q18,IC16
LEVEL SHIFT, BUFF,BIAS D13,Q19,IC17
LEVEL SHIFT, BUFF,BIAS D14,Q20,IC17
R OUT
G OUT
B OUT
SW8
SW POSITION
3C-2V Cable up to 0.5m up to 12m up to 25m up to 50m
5C-2V Cable up to 1m up to 25m up to 50m up to 100m
IC23 +5V REG
IC24 +10V REG
+B SW Q28
+B SW Q26
+B IK PROT Q22
PROTECTOR Q23,24
+B SW Q25
RELAY DRIVE Q21
RELAY DRIVE Q1
MODE SW Q2
MODE SW Q4
MODE SW Q5
MODE SW Q6
MODE SW Q7
MODE SW Q8
D6
SW1 (DIP SW)
SW12 OUTPUT SIGNAL SELECT
RGB
MIX
IC25 NOR
IC26 COMPARATOR
SW2 IN/OUT SELECT
IN
OUT
IFB-12(NEW)
IFB-12A (INTERFACE)

SECTION 7
DIAGRAMS

7-1. SCHEMATIC DIAGRAMS AND PRINTED WIRING BOARDS

IFB-12 (OLD): (J: S/N030,001 to 031,450 / U/C, AEP: S/N 040,001 to 041,750)
FB-12 (NEW): (J: S/N 031,451 and later / U/C, AEP: S/N 041,751 and later)

Note:

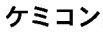
- All capacitors are in µF unless otherwise noted. pF: µµF 50 WV or less are not indicated except for electrolytics.
- All electrolytics are in 50 V unless otherwise specified.
- All resistors are in ohms, 1/4 W in resistance, 1/10W in chip resistance.
  kΩ = 1000 Ω, MΩ = 1000k Ω
- : nonflammable resistor.
- : fusible resistor.
- : internal component.
- : panel designation and adjustment for repair.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- Voltage value is the reference value between it and the earth, when component RGB signal are received from didital video generator (digital multi-meter used : 10 M ohms/V DC).
- Unit of voltage values is V (volt).
- No mark : Common and signal in (S2 in side).
- ( ) : Signal out (S2 out side).
- Circled numbers are waveform reference.
- ⇨ : Signal Path.

Reference information

RESISTOR	RN	: METAL FILM
	RC	: SOLID
	FPRD	: NONFRAMMABLE CARBON
	FUSE	: NONFLAMMABLE FUSIBLE
	RS	: NONFLAMMABLE METAL OXIDE
	RB	: NONFLAMMABLE CEMENT
	RW	: NONFLAMMABLE WIREWOUND
	※	: ADJUSTMENT RESISTOR
COIL	LF-8L	: MICRO INDUCTOR
CAPACITOR	TA	: TANTALUM
	PS	: STYROL
	PP	: POLYPROPYLENE
	PT	: MYLAR
	MPS	: METALIZED POLYESTER
	MPP	: METALIZED POLYPROPYLENE
	ALB	: BIPOLAR
	ALT	: HIGH TEMPERATURE
	ALR	: HIGH RIPPLE

The components identified ⚠ marked are critical for safety.
Replace only with the part number specified.

Les composants identifiés par la marque ⚠ sont critiques pour la sécurité.
Ne les remplacer que par une piéce portant le numéro spécifié.

- ケミコン，タンタルを除くコンデンサで耐圧50 V以下のものは，その耐圧を省略。単位はすべてµF（pはpF）
- ケミコン，タンタルのコンデンサで耐圧50Vは省略。
- 抵抗で指示のないものは1/4 W，チップ抵抗は1/10 Wです。単位は全てΩ。k Ω = 1000 Ω，M Ω = 1000 kΩ
- 印はヒューズ抵抗。
-  印は不燃性抵抗。
- △ 印は内蔵部品。
- 印はパネル表示名称。
- 半固定抵抗および可変抵抗器の特性カーブ（B）は省略。
- 電圧値は，デジタルビデオゼネレータよりコンポーネントRGB信号を受信したときの対アース間の参考値。（デジタルマルチメーター DC 10 MΩ）
- 電圧値の単位は V（ボルト）。
- 無印 ：共通及び信号入力（S2 in 側）。
- （ ）：信号出力（S2 out 側）。
- ○数字は波形表の番号。
- ⇨ ：信号ライン

－部品特性省略表－

- 固定抵抗

RN	：金属被膜
RC	：ソリッド
FPRD	：不燃性カーボン
FUSE	：不燃性ヒューズ
RS	：不燃性酸化金属被膜
RB	：不燃性セメント
RW	：不燃性巻線
※	：調整抵抗

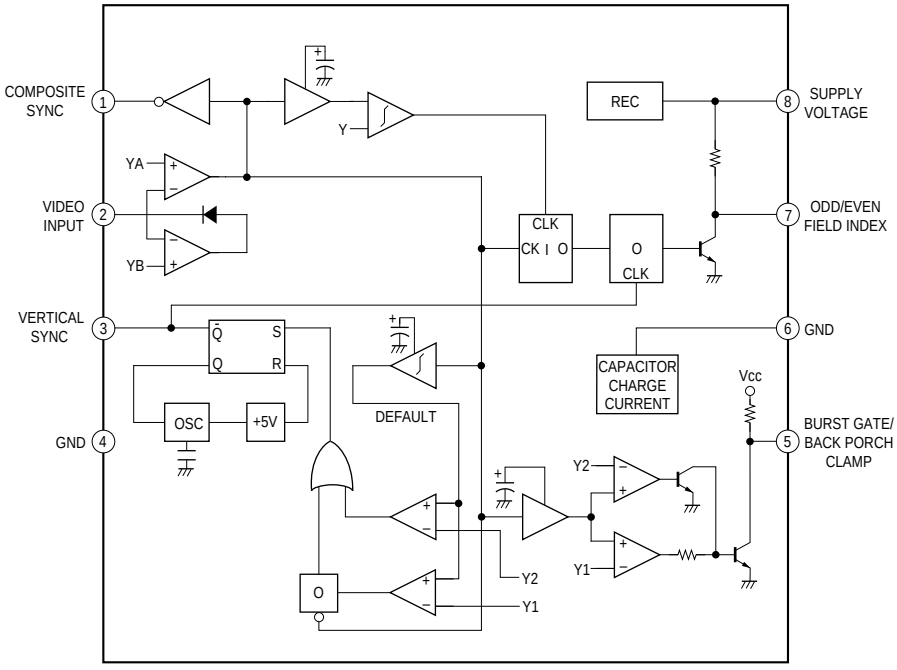
- マイクロインダクタ
  LF-8B ：マイクロインダクタ

- コンデンサ

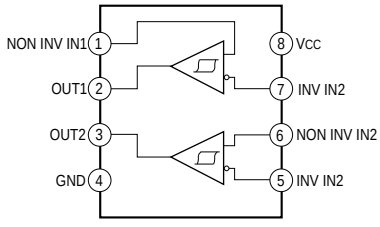
TA	：タンタル
PS	：スチロール
PP	：ポリプロピレン
PT	：マイラ
MPS	：メタライズドポリエステル
MPP	：メタライズドポリプロピレン
ALB	：バイポーラ
ALT	：高温用
ALR	：ハイリップル

⚠印の部品は，安全性を維持するために，重要な部品です。従って交換時は，必ず指定の部品を使用してください。

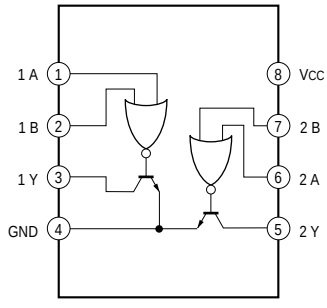
IFB-12 (OLD) (2/3) BOARD
IC2 GS4881-CKA



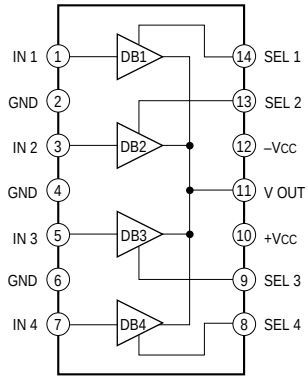
IFB-12 (OLD) (2/3) BOARD
IC3 SN75157PS



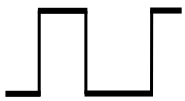
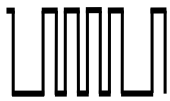
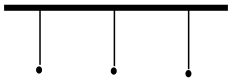
IFB-12 (OLD) (2/3) BOARD
IC5 SN75453BPS



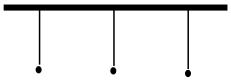
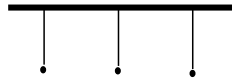
IFB-12 (OLD) (3/3) BOARD
IC10, 11, 12 MPC100AU



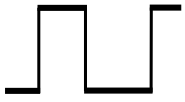
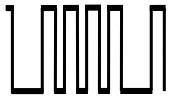
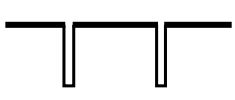
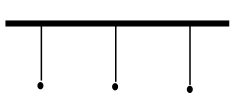
• IFB-12 (OLD) (1/3) BOARD

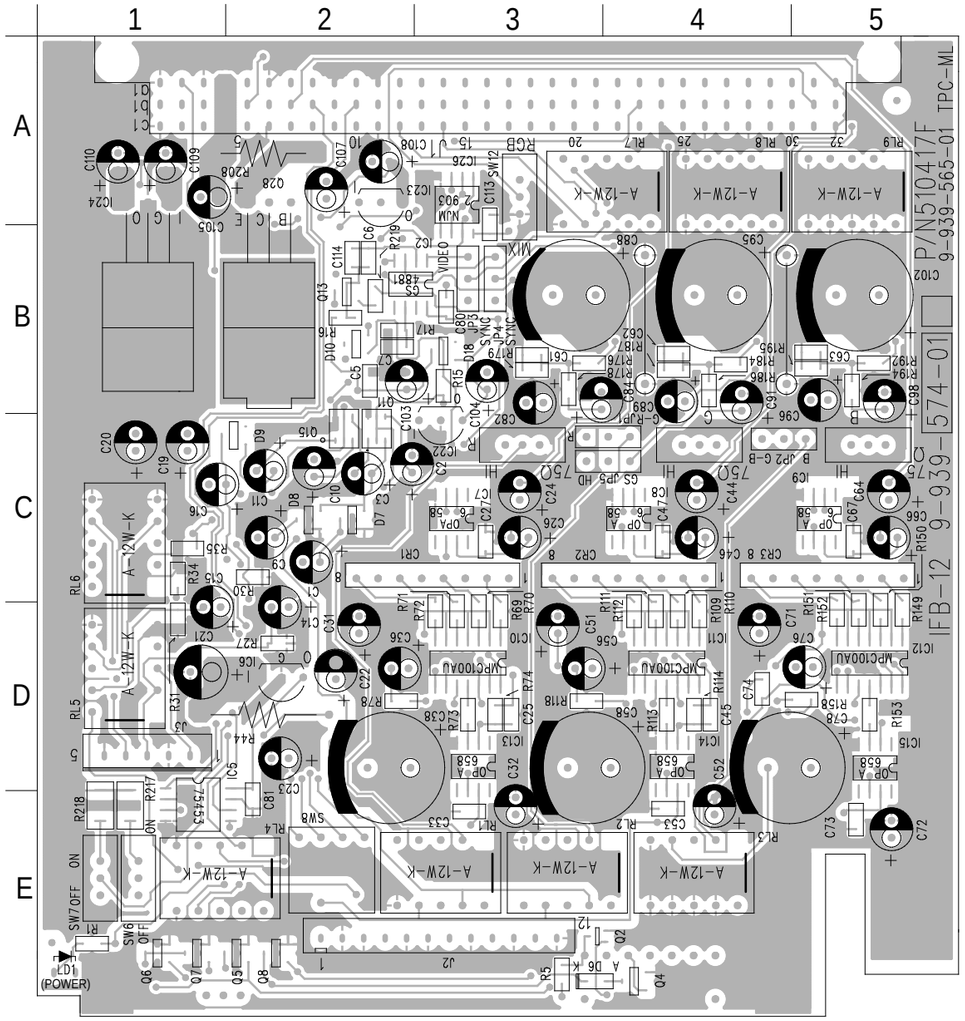
① WAVEFORMS 0.7 Vp-p (H)	②  0.7 Vp-p (H)	③  0.7 Vp-p (H)	④ 4.5 Vp-p (H)
⑤  4.5 Vp-p (V)			

• IFB-12 (OLD) (2/3) BOARD WAVEFORMS

①  4.1 Vp-p (V)	② 4.5 Vp-p (H)	③ 4.1 Vp-p (H)	④  4.0 Vp-p (V)

• IFB-12 (OLD) (3/3) BOARD WAVEFORMS

① 2.0 Vp-p (H)	② 2.0 Vp-p (H)	③ 2.0 Vp-p (H)	④ 1.0 Vp-p (H)
⑤  1.0 Vp-p (H)	⑥ 1.0 Vp-p (H)	⑦ 0.7 Vp-p (H)	⑧ 0.7 Vp-p (H)
⑨  0.7 Vp-p (H)	⑩  4.1 Vp-p (H)	⑪  4.1 Vp-p (V)	



IFB-12 – A SIDE –

IFB-12 (OLD) BOARD
*: B SIDE

< DIODE >

D1	*E-2
D3	*E-1
D4	*E-2
D5	*C-1
D6	E-4
D7	C-2
D8	C-2
D9	C-2
D10	B-2
D11	*D-2
D12	*D-3
D13	*D-4
D14	*D-5
D15	*E-3
D16	*E-4
D17	*E-5
D18	B-3
D19	*A-4

< IC >

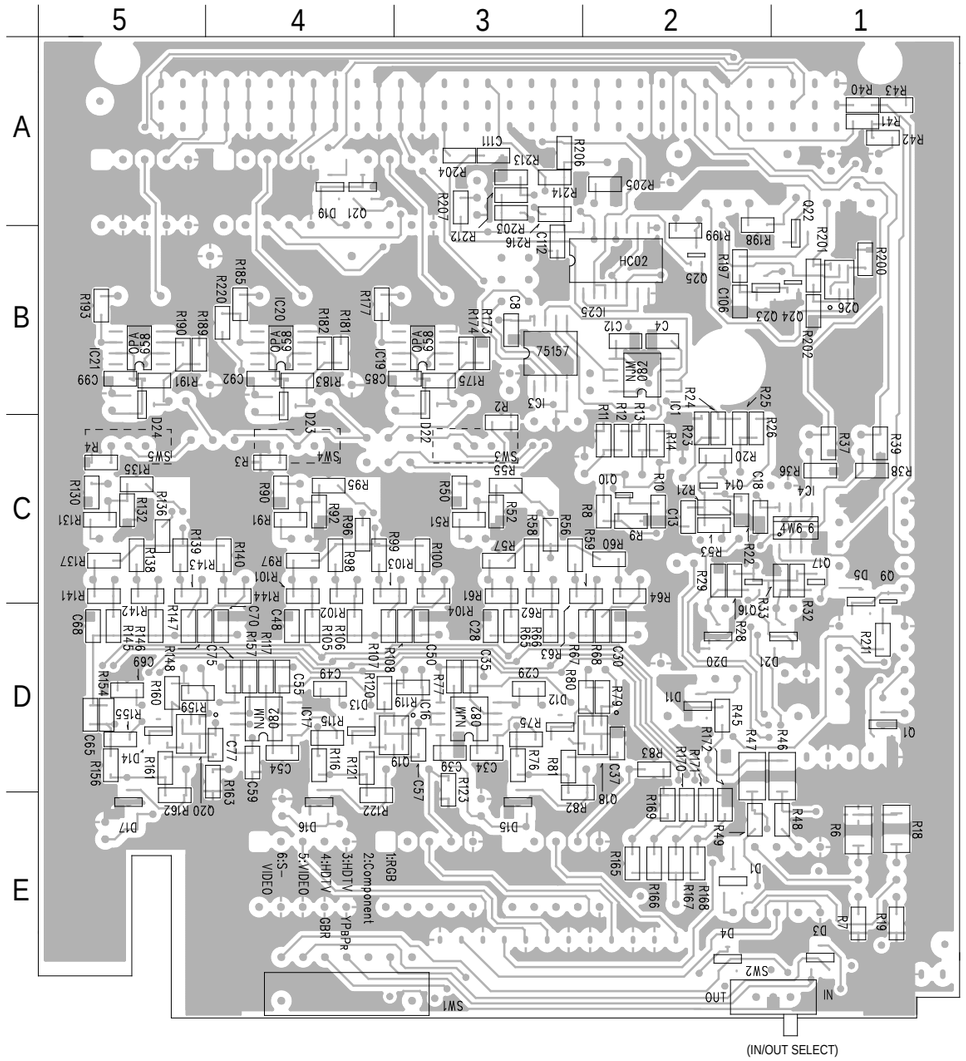
IC1	*B-2
IC2	B-3
IC3	*B-3
IC4	*C-1
IC5	E-1
IC6	D-2
IC7	C-3
IC8	C-4
IC9	C-5
IC10	D-3
IC11	D-4
IC12	D-5
IC13	D-3
IC14	D-4
IC15	D-5
IC16	*D-3
IC17	*D-4
IC19	*B-3
IC20	*B-4
IC21	*B-5
IC22	C-3
IC23	A-2
IC24	A-1
IC25	*B-2
IC26	A-3

< LED >

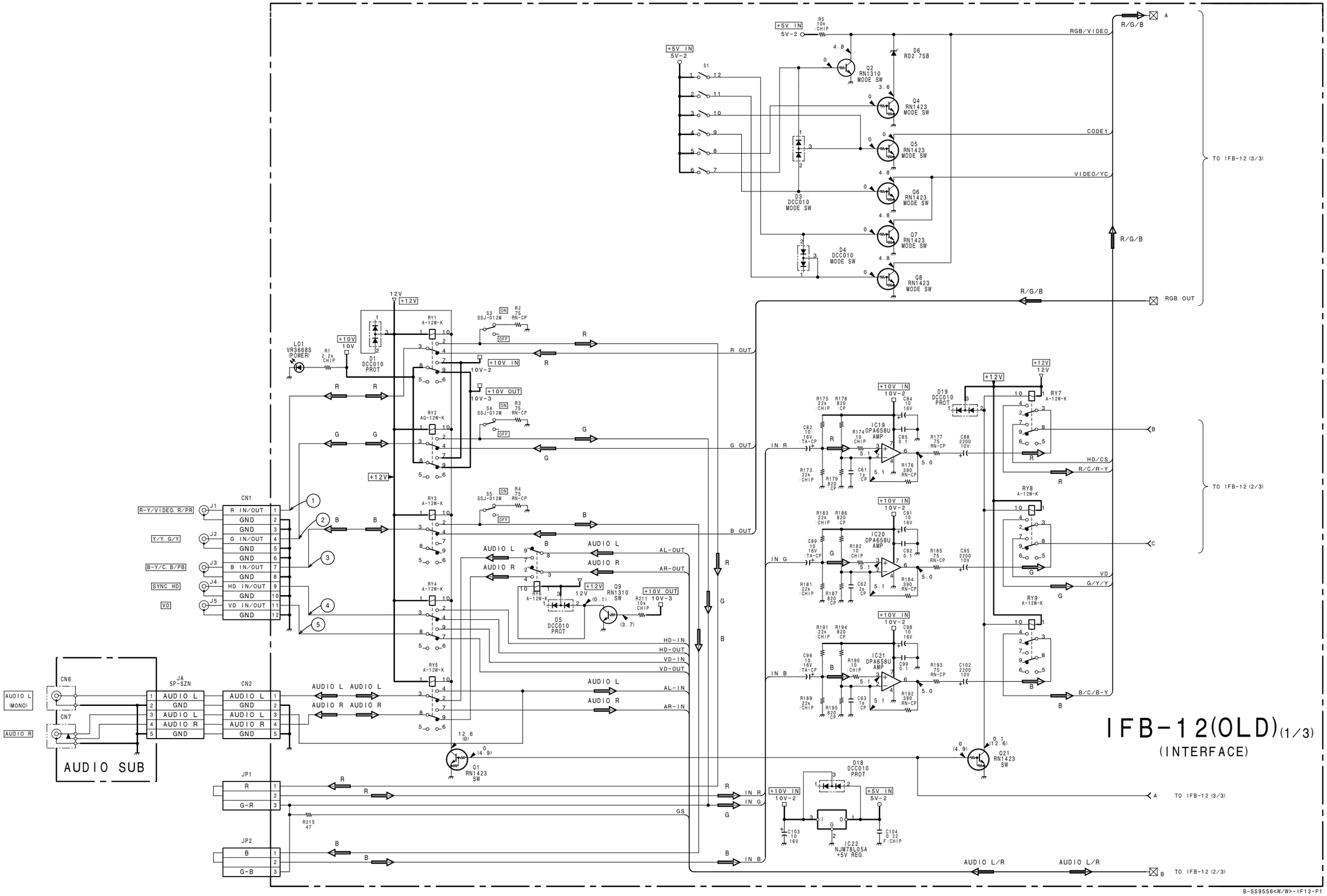
LD1	E-1

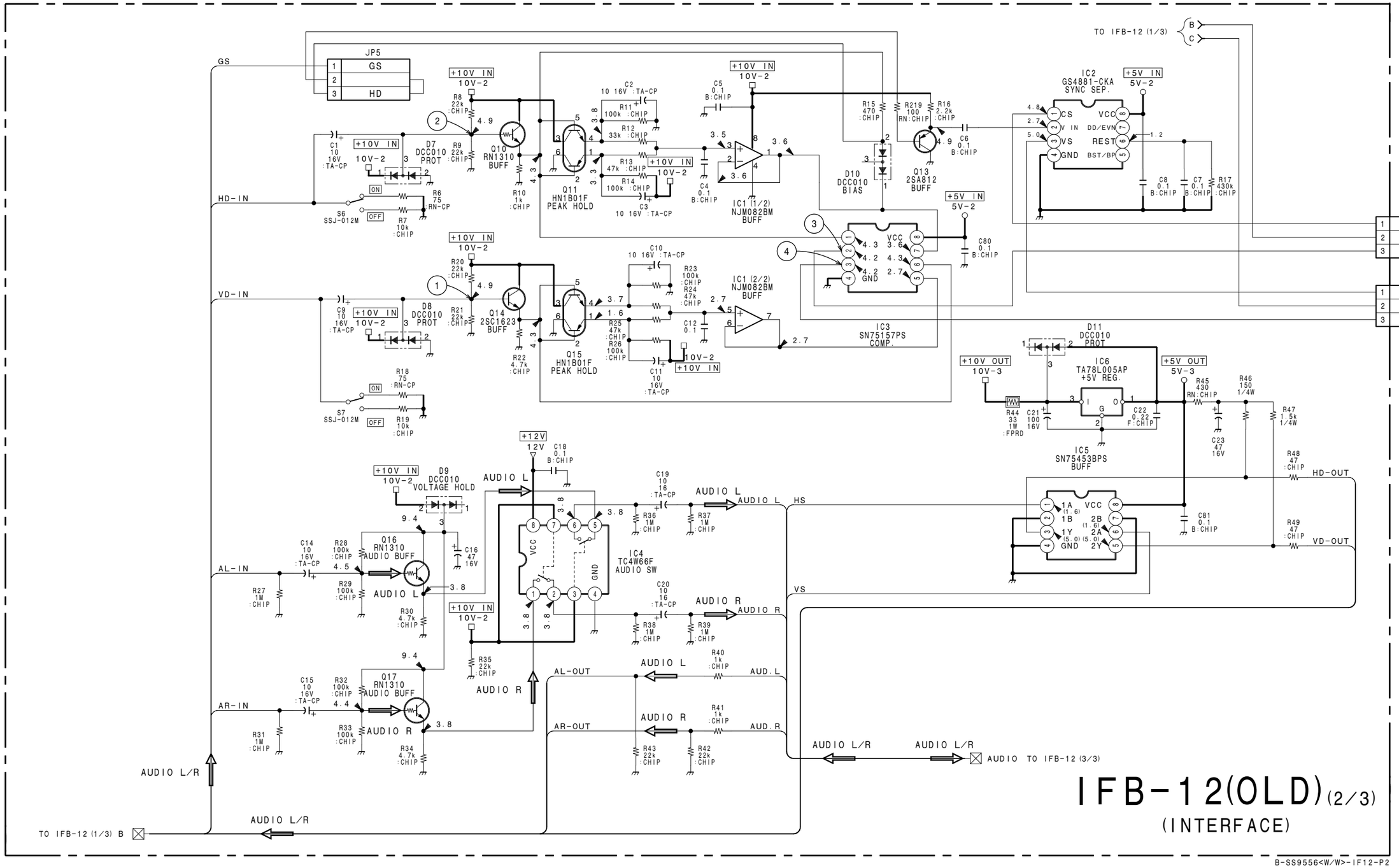
< TRANSISTOR >

Q1	*D-2
Q2	E-3
Q4	E-4
Q5	E-1
Q6	E-1
Q7	E-1
Q8	E-2
Q9	*C-1
Q10	*C-2
Q11	C-2
Q13	B-2
Q14	*C-2
Q15	C-2
Q16	*C-2
Q17	*C-1
Q18	*D-2
Q19	*D-4
Q20	*D-5
Q21	*A-4
Q22	*B-1
Q23	*B-2
Q24	*B-1
Q25	*B-2
Q26	*B-1
Q28	A-2



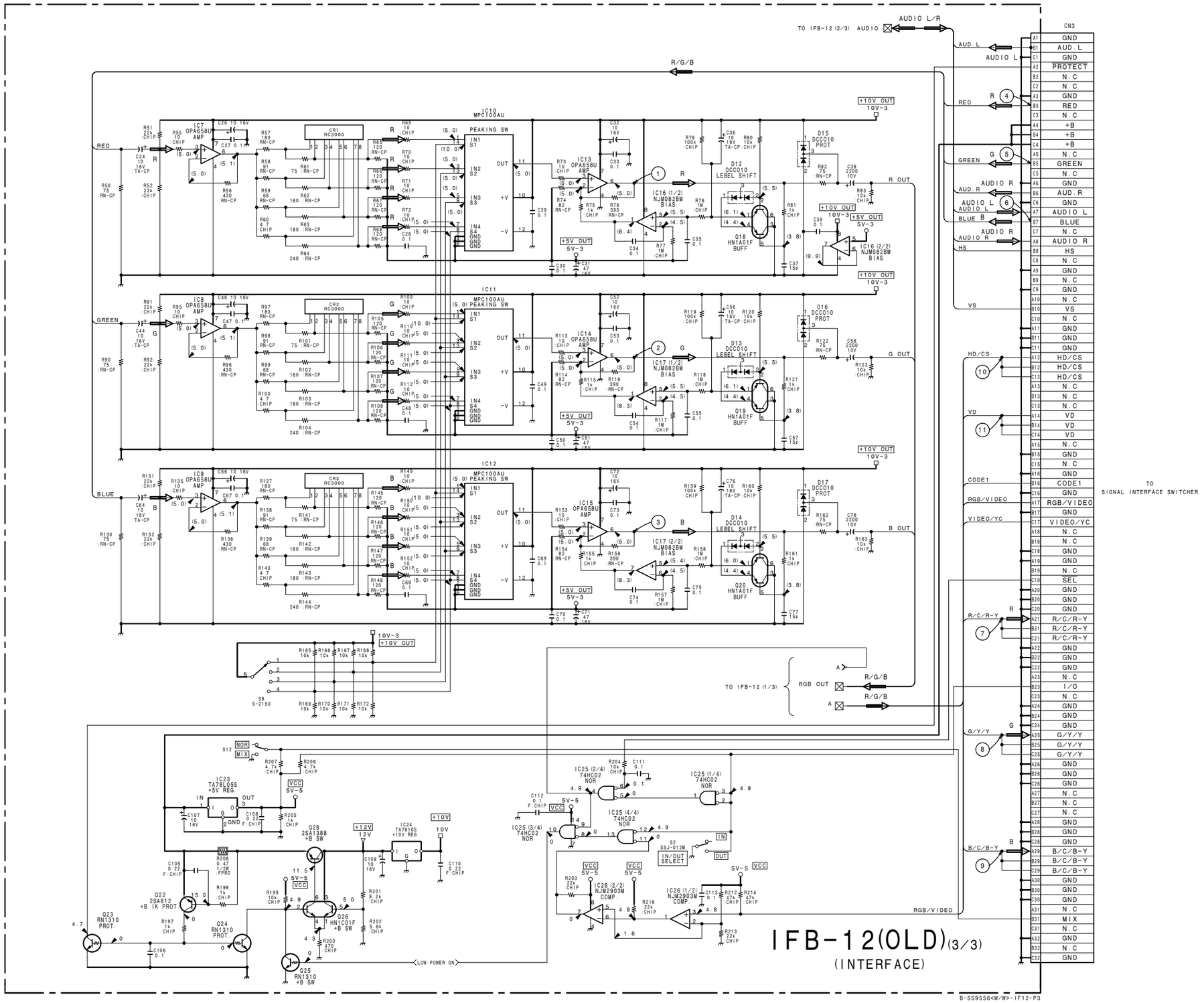
IFB-12 – B SIDE –


+5V IN
5V-2
R5
10k
:CHIP
RGB/VIDEO
A
R/G/B
D6
RD2.7SB
Q2
RN1310
MODE SW
Q4
RN1423
MODE SW
Q5
RN1423
MODE SW
CODE1
VIDEO/YC
Q6
RN1423
MODE SW
Q7
RN1423
MODE SW
Q8
RN1423
MODE SW
S1
D3
DCC010
MODE SW
D4
DCC010
MODE SW
TO IFB-12 (3/3)
RGB OUT
12V
+12V
LD1
VR3668S
(POWER)
R1
2.2k
:CHIP
+10V
10V
D1
DCC010
PROT
RY1
A-12W-K
S3
SSJ-012M
ON
OFF
R2
75
:RN-CP
R OUT
+10V IN
10V-2
+10V OUT
10V-3
RY2
AQ-12W-K
S4
SSJ-012M
R3
75
:RN-CP
G OUT
RY3
A-12W-K
S5
SSJ-012M
R4
75
:RN-CP
B OUT
CN1
R-Y/VIDEO. R/PR
Y/Y. G/Y
B-Y/C. B/PB
SYNC HD
VD
J1
J2
J3
J4
J5
R IN/OUT
G IN/OUT
B IN/OUT
HD IN/OUT
VD IN/OUT
GND
AUDIO L
AUDIO R
AL-OUT
AR-OUT
RY4
A-12W-K
RY5
A-12W-K
RY6
A-12W-K
Q9
RN1310
SW
R211
10k
:CHIP
10V-3
D5
DCC010
PROT
HD-IN
HD-OUT
VD-IN
VD-OUT
AL-IN
AR-IN
CN6
CN7
JA
5P-SZN
CN2
AUDIO L (MONO)
AUDIO R
AUDIO SUB
Q1
RN1423
SW
JP1
JP2
R
G-R
G-B
R215
47
GS
IN R
IN G
IN B
IC19
OPA658U
AMP
IC20
OPA658U
AMP
IC21
OPA658U
AMP
IC22
NJM78L05A
+5V REG.
D18
DCC010
PROT
C103
10
16V
C104
0.22
:CHIP
D19
DCC010
PROT
RY7
A-12W-K
RY8
A-12W-K
RY9
A-12W-K
HD/CS
R/C/R-Y
G/Y/Y
B/C/B-Y
VD
TO IFB-12 (2/3)
Q21
RN1423
SW
AUDIO L/R
TO IFB-12 (3/3)
IFB-12(OLD)(1/3)
(INTERFACE)
B-SS9556<W/W>-IF12-P1

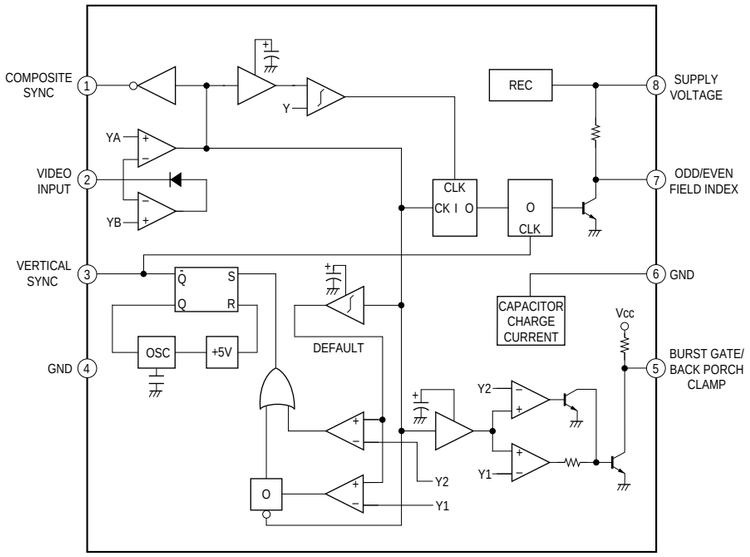


IFB-12(OLD)(2/3)
(INTERFACE)

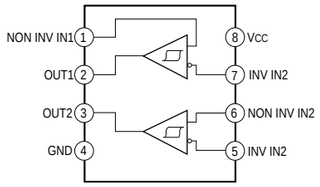
B-SS9556<W/W>-IF12-P2


IFB-12(OLD)(3/3)
(INTERFACE)
TO SIGNAL INTERFACE SWITCHER
TO IFB-12(2/3) AUDIO
TO IFB-12(1/3) RGB OUT
IC10 MPC100AU PEAKING SW
IC11 MPC100AU PEAKING SW
IC12 MPC100AU PEAKING SW
IC7 OPA658U AMP
IC8 OPA658U AMP
IC9 OPA658U AMP
IC13 OPA658U AMP
IC14 OPA658U AMP
IC15 OPA658U AMP
IC16 (1/2) NJM082BM BIAS
IC16 (2/2) NJM082BM BIAS
IC17 (1/2) NJM082BM BIAS
IC17 (2/2) NJM082BM BIAS
IC23 TA78L05S +5V REG.
IC24 TA7810S +10V REG.
IC25 (1/4) 74HC02 NOR
IC25 (2/4) 74HC02 NOR
IC25 (3/4) 74HC02 NOR
IC25 (4/4) 74HC02 NOR
IC26 (1/2) NJM2903M COMP.
IC26 (2/2) NJM2903M COMP.
D12 DCC010 LEBEL SHIFT
D13 DCC010 LEBEL SHIFT
D14 DCC010 LEBEL SHIFT
D15 DCC010 PROT
D16 DCC010 PROT
D17 DCC010 PROT
D18 HN1A01F BUFF
D19 HN1A01F BUFF
D20 HN1A01F BUFF
Q22 2SA812 +B IK PROT.
Q23 RN1310 PROT.
Q24 RN1310 PROT.
Q25 RN1310 +B SW
Q26 HN1C01F +B SW
Q28 2SA1388 +B SW
S2 SSJ-012W IN/OUT SELECT
S8 S-2150
S12 NOR MIX
CR1 RC3000
CR2 RC3000
CR3 RC3000
CN3
AUDIO L/R
R/G/B
RED
GREEN
BLUE
R OUT
G OUT
B OUT
RGB/VIDEO
VIDEO/YC
+10V OUT
+5V OUT
LOW:POWER ON
B-SS9556<W/W>-IF12-P3

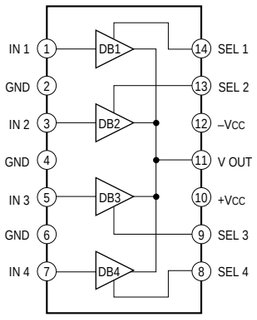
IFB-12 (NEW) /IFB-12A (2/3) BOARD
IC2 GS4881-CKA



IFB-12 (NEW) /IFB-12A (2/3) BOARD
IC3 SN75157PS



IFB-12 (NEW) /IFB-12 (3/3) BOARD
IC10, 11, 12 MPC100AU



• IFB-12 (NEW) /IFB-12A (1/3) BOARD

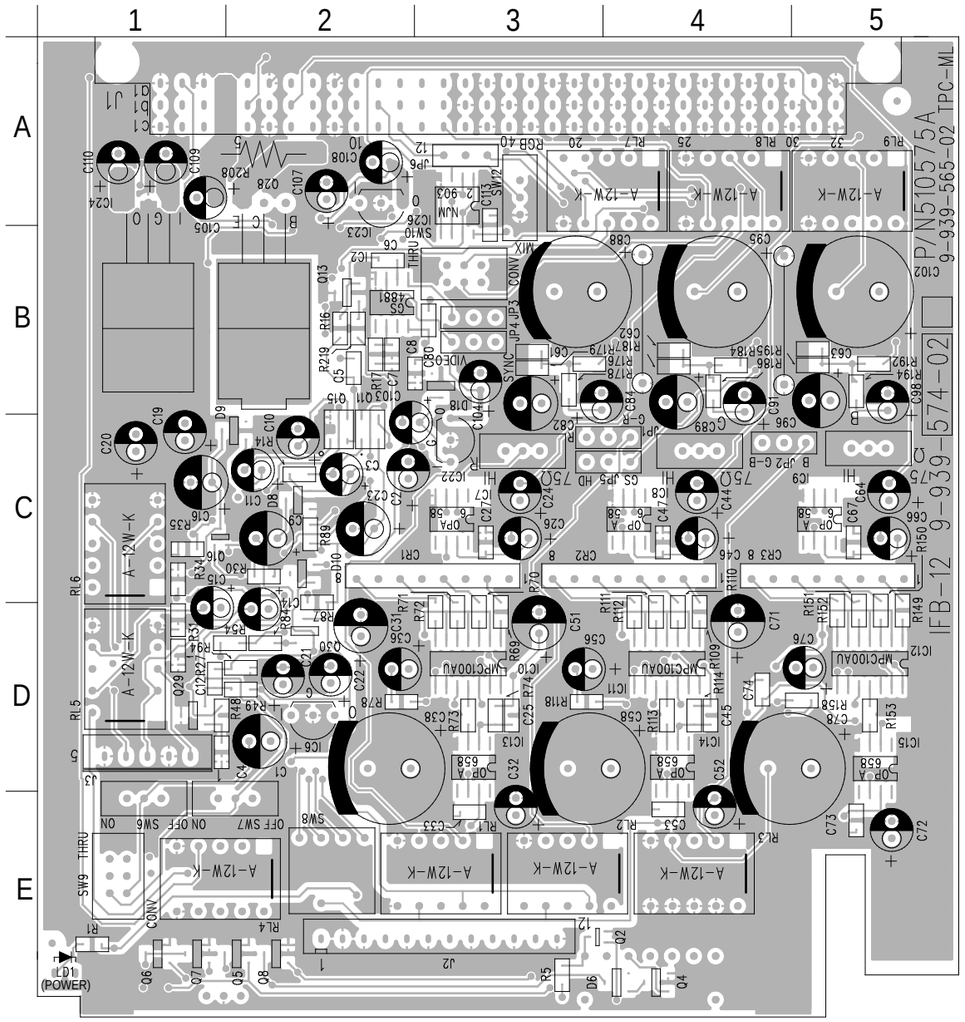
WAVEFORMS			
① 0.7 Vp-p (H)	② 0.7 Vp-p (H)	③ 0.7 Vp-p (H)	④ 4.7 Vp-p (H)
⑤ 5.0 Vp-p (V)			

• IFB-12 (NEW) /IFB-12A (2/3) BOARD WAVEFORMS

① 4.7 Vp-p (H)	② 4.4 Vp-p (V)	③ 4.1 Vp-p (H)	④ 4.0 Vp-p (V)
⑤ 1.7 Vp-p (H)			

• IFB-12 (NEW) /IFB-12A (3/3) BOARD WAVEFORMS

① 2.0 Vp-p (H)	② 2.0 Vp-p (H)	③ 2.0 Vp-p (H)	④ 1.0 Vp-p (H)
⑤ 1.0 Vp-p (H)	⑥ 1.0 Vp-p (H)	⑦ 0.7 Vp-p (H)	⑧ 0.7 Vp-p (H)
⑨ 0.7 Vp-p (H)	⑩ 4.1 Vp-p (H)	⑪ 4.1 Vp-p (V)	



IFB-12 (NEW) BOARD
*: B SIDE

< DIODE >

D1	*E-2
D3	*E-1
D4	*E-2
D5	*C-1
D6	E-4
D7	*D-2
D8	C-2
D9	C-2
D10	C-2
D11	*D-2
D12	*D-3
D13	*D-4
D14	*D-5
D15	*E-3
D16	*E-4
D17	*E-5
D18	B-3
D19	*A-4
D20	*D-2
D21	*D-1
D22	*B-3
D23	*B-4
D24	*B-5

< IC >

IC1	*B-2
IC2	B-2
IC3	*B-2
IC4	*C-1
IC6	D-2
IC7	C-3
IC8	C-4
IC9	C-5
IC10	D-3
IC11	D-4
IC12	D-5
IC13	D-3
IC14	D-4
IC15	D-5
IC16	*D-3
IC17	*D-4
IC19	*B-3
IC20	*B-4
IC21	*B-5
IC22	C-3
IC23	A-2
IC24	A-1
IC25	*B-2
IC26	A-3

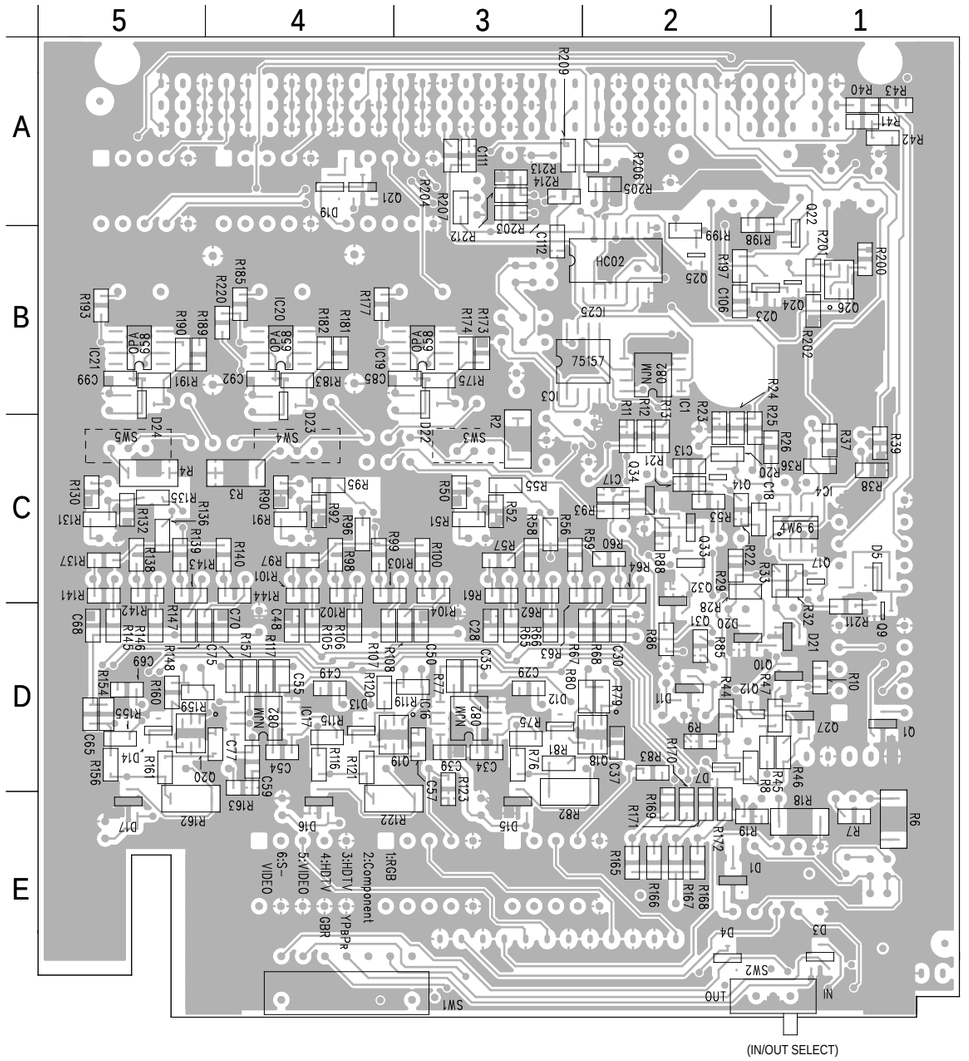
< LED >

LD1	E-1

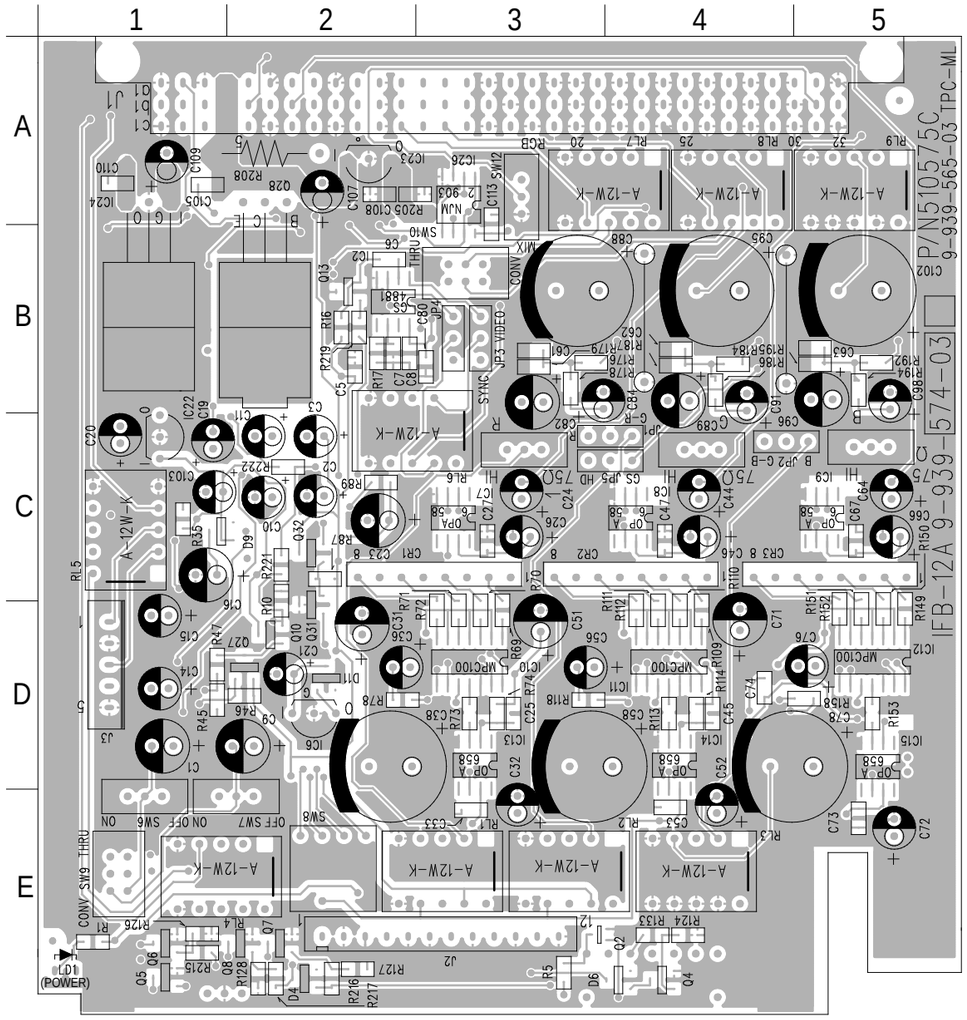
< TRANSISTOR >

Q1	*D-1
Q2	E-3
Q4	E-4
Q5	E-2
Q6	E-1
Q7	E-1
Q8	E-2
Q9	*D-1
Q10	*D-1
Q11	C-2
Q12	*D-2
Q13	B-2
Q14	*C-2
Q15	C-2
Q16	C-1
Q17	*C-1
Q18	*D-2
Q19	*D-4
Q20	*D-5
Q21	*A-4
Q22	*B-1
Q23	*B-2
Q24	*B-1
Q25	*B-2
Q26	*B-1
Q27	*D-1
Q28	A-2
Q29	D-1
Q30	D-2
Q31	*C-2
Q32	*C-2
Q33	*C-2
Q34	*C-2

IFB-12 – A SIDE –



IFB-12 – B SIDE –



IFB-12A – A SIDE –

IFB-12 BOARD
*: B SIDE

< DIODE >

D1	*E-2
D3	*E-1
D4	E-2
D5	*C-3
D6	E-4
D7	*D-1
D8	*D-2
D9	C-1
D10	*C-2
D11	D-2
D12	*D-3
D13	*D-4
D14	*D-5
D15	*E-3
D16	*E-4
D17	*E-5
D19	*A-4
D20	*D-2
D21	*D-2
D22	*B-3
D23	*B-4
D24	*B-5

< IC >

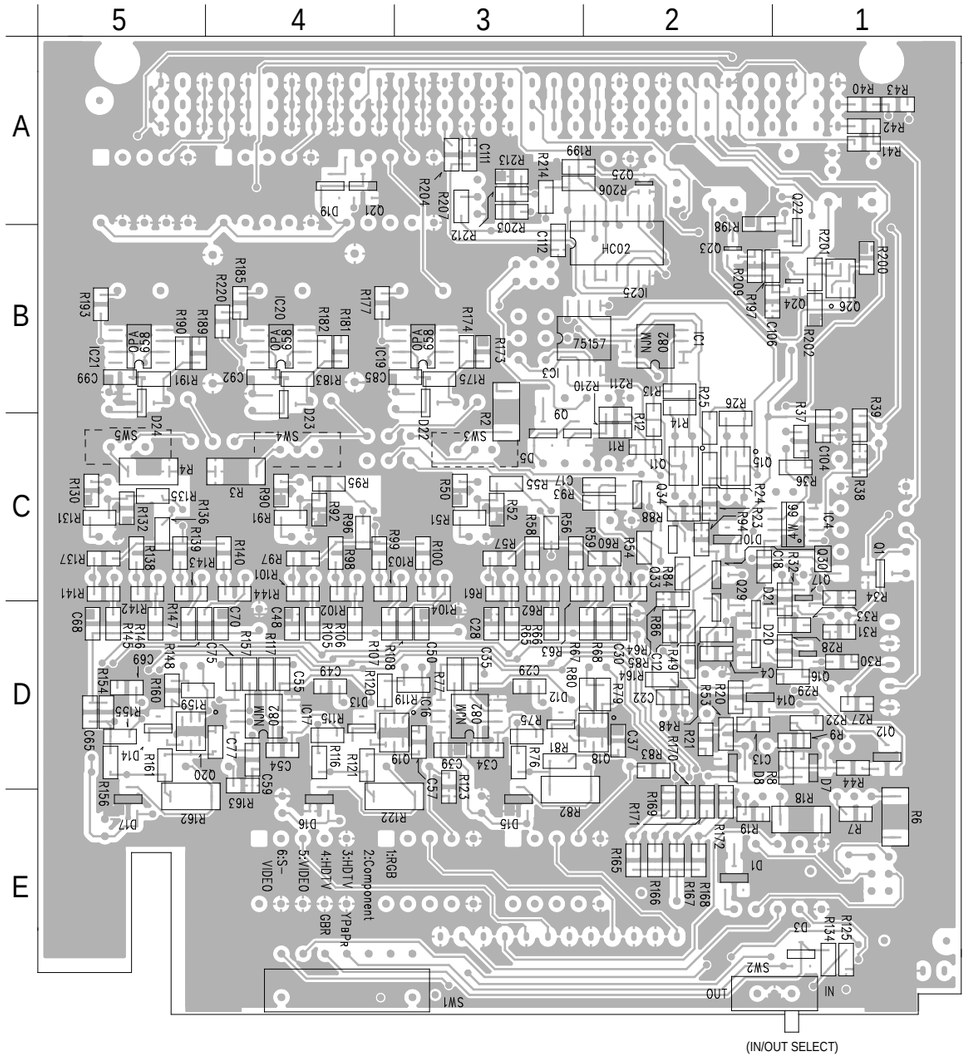
IC1	*B-2
IC2	B-2
IC3	*B-2
IC4	*C-1
IC6	D-2
IC7	C-3
IC8	C-4
IC9	C-5
IC10	D-3
IC11	D-4
IC12	D-5
IC13	D-3
IC14	D-4
IC15	D-5
IC16	*D-3
IC17	*D-4
IC19	*B-3
IC20	*B-4
IC21	*B-5
IC22	C-1
IC23	A-2
IC24	A-1
IC25	*B-2
IC26	A-3

< LED >

LD1	E-1

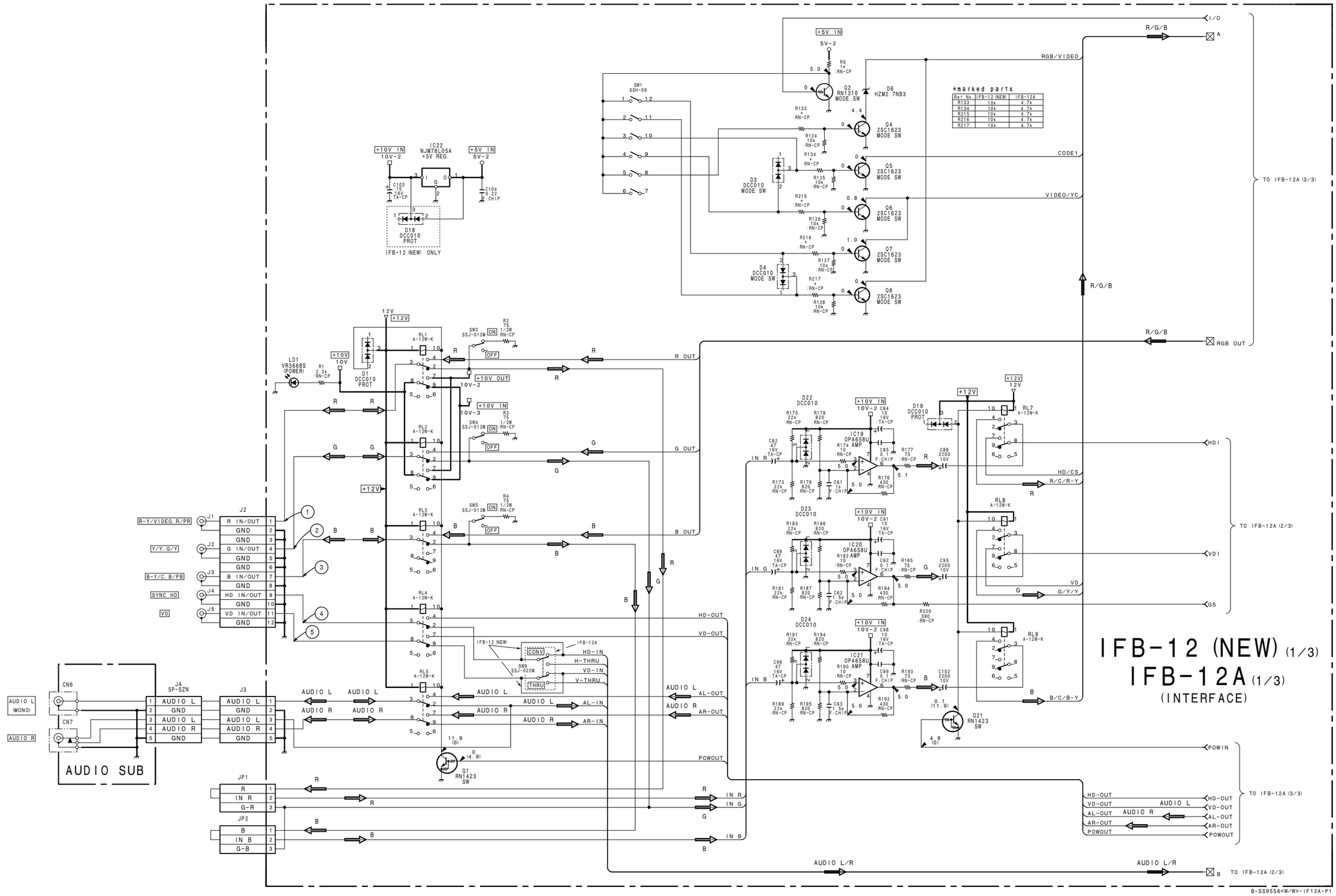
< TRANSISTOR >

Q1	*C-1
Q2	E-4
Q4	E-4
Q5	E-1
Q6	E-1
Q7	E-2
Q8	E-2
Q9	*C-3
Q10	D-2
Q11	*C-2
Q12	*D-1
Q13	B-2
Q14	*D-2
Q15	*C-2
Q16	*D-1
Q17	*C-1
Q18	*D-2
Q19	*D-4
Q20	*D-5
Q21	*A-4
Q22	*A-1
Q23	*B-2
Q24	*B-1
Q25	*A-2
Q26	*B-1
Q27	D-2
Q28	A-2
Q29	*C-2
Q30	*C-2
Q31	C-2
Q32	C-2
Q33	*C-2
Q34	*C-2

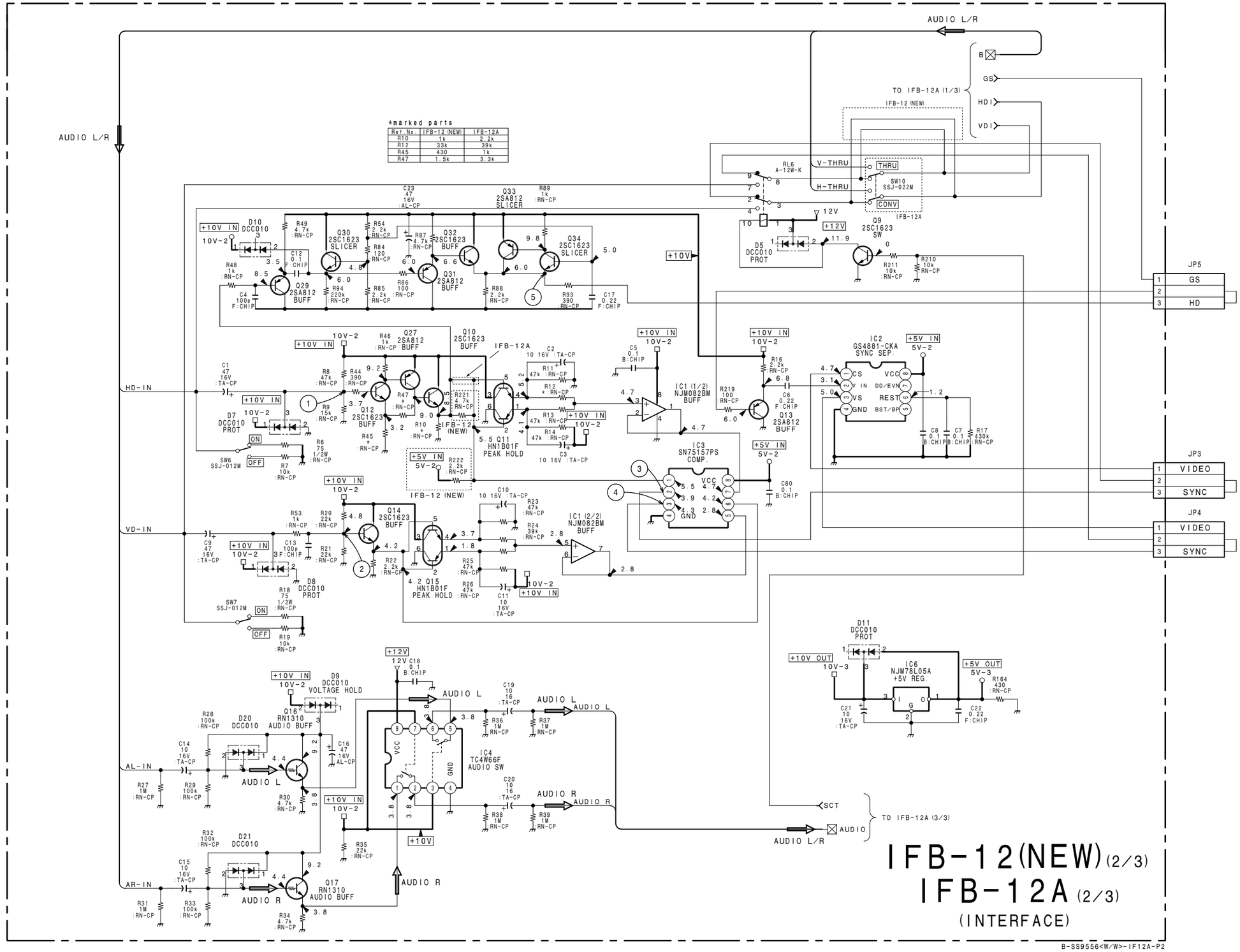


IFB-12A – B SIDE –

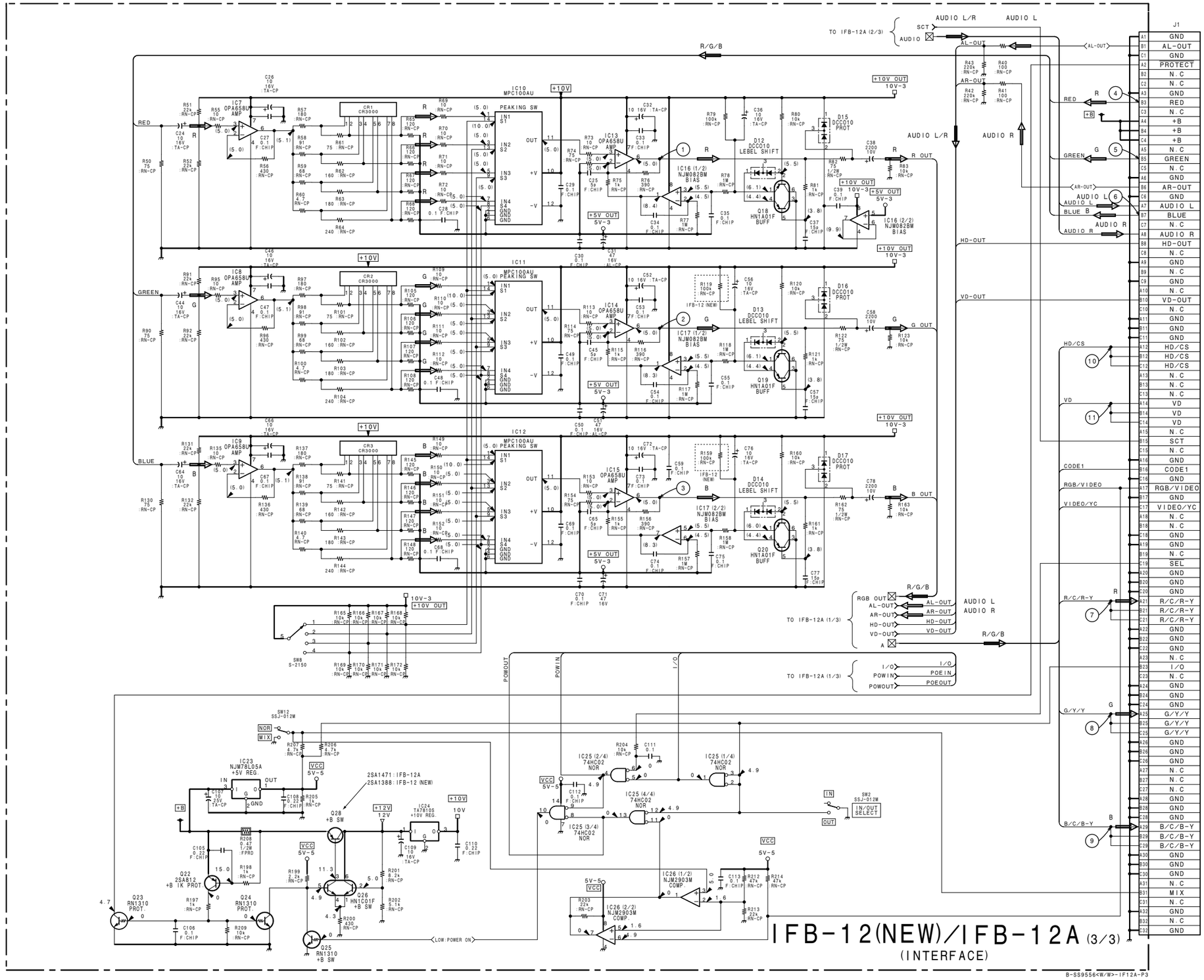
IFB-12 (NEW) /IFB-12A (1/3)



IFB-12 (NEW) /IFB-12A (2/3)



IFB-12 (NEW) /IFB-12A (3/3)



A	B	C	D	E	F	G	H

このマニュアルに記載されている事柄の著作権は当社にあり，説明内容は機器購入者の使用を目的としています。従って，当社の許可なしに無断で複写したり，説明内容(操作，保守等)と異なる目的で本マニュアルを使用することを禁止します。

The material contained in this manual consists of information that is the property of Sony Corporation and is intended solely for use by the purchasers of the equipment described in this manual.
Sony Corporation expressly prohibits the duplication of any portion of this manual or the use there of for any purpose other than the operation or maintenance of the equipment described in this manual without the express written permission of Sony Corporation.

English/Japanese
98KY05133-1
Printed in Japan
© 1998. 11

Sony Corporation

Broadcasting & Professional Systems Company

9-922-633-02